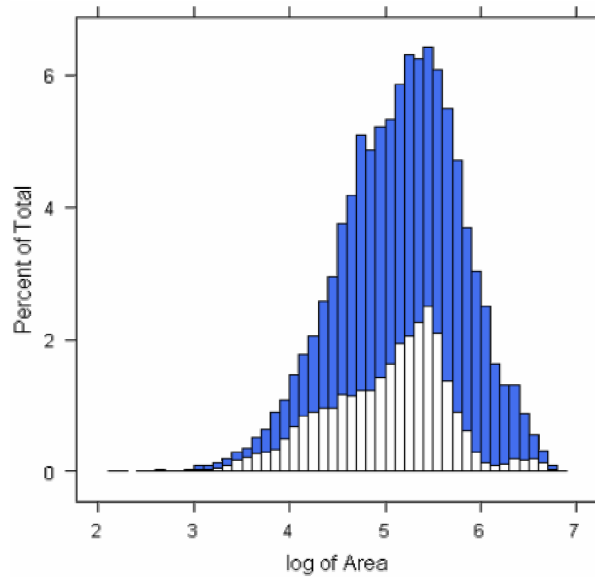




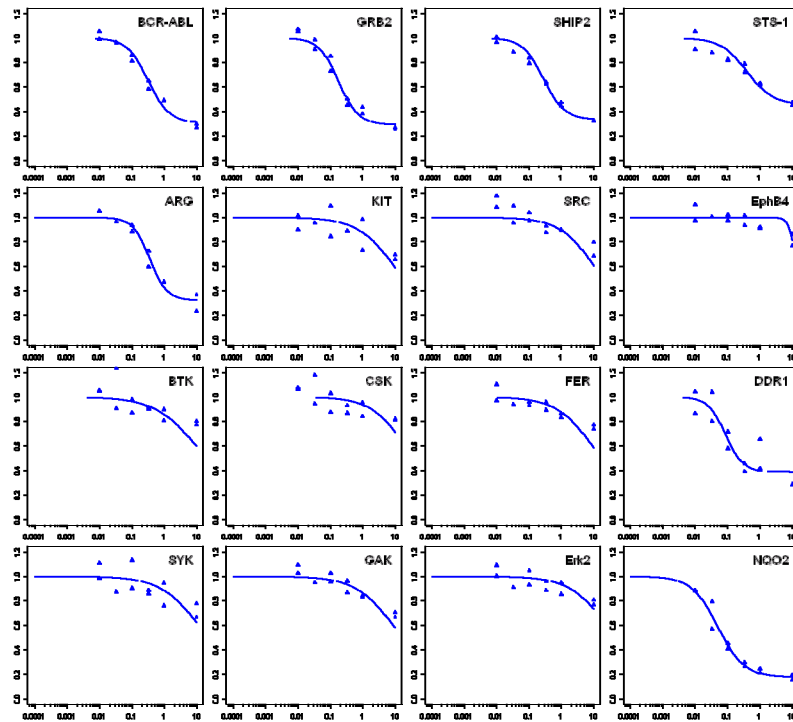
**Supplementary Figure 1** Kinase binding profiles of individual immobilized tool compounds and drugs.

The research tool inhibitors Bis (III) indolyl maleimide (protein kinase C inhibitor), purvalanol B (cyclin-dependent kinase inhibitor), CZC8004 and staurosporine (pan-kinase inhibitors); and the drugs or drug candidates PD173955 (Src kinases), vandetanib (VEGFR, EGFR), sunitinib (VEGFR, PDGFR, Flt3, KIT), Ro 320-1195 (p38 MAP kinase), imatinib (ABL, PDGFR, KIT), gefitinib (EGFR), pelitinib (EGFR), and lapatinib (EGFR, Her-2) were immobilized and exposed to lysates from HeLa or K562 cells. Bound proteins were identified by mass spectrometry. The number of spectrum-to-sequence matches was translated into a heat map as a semi-quantitative indicator of the amount of protein captured.



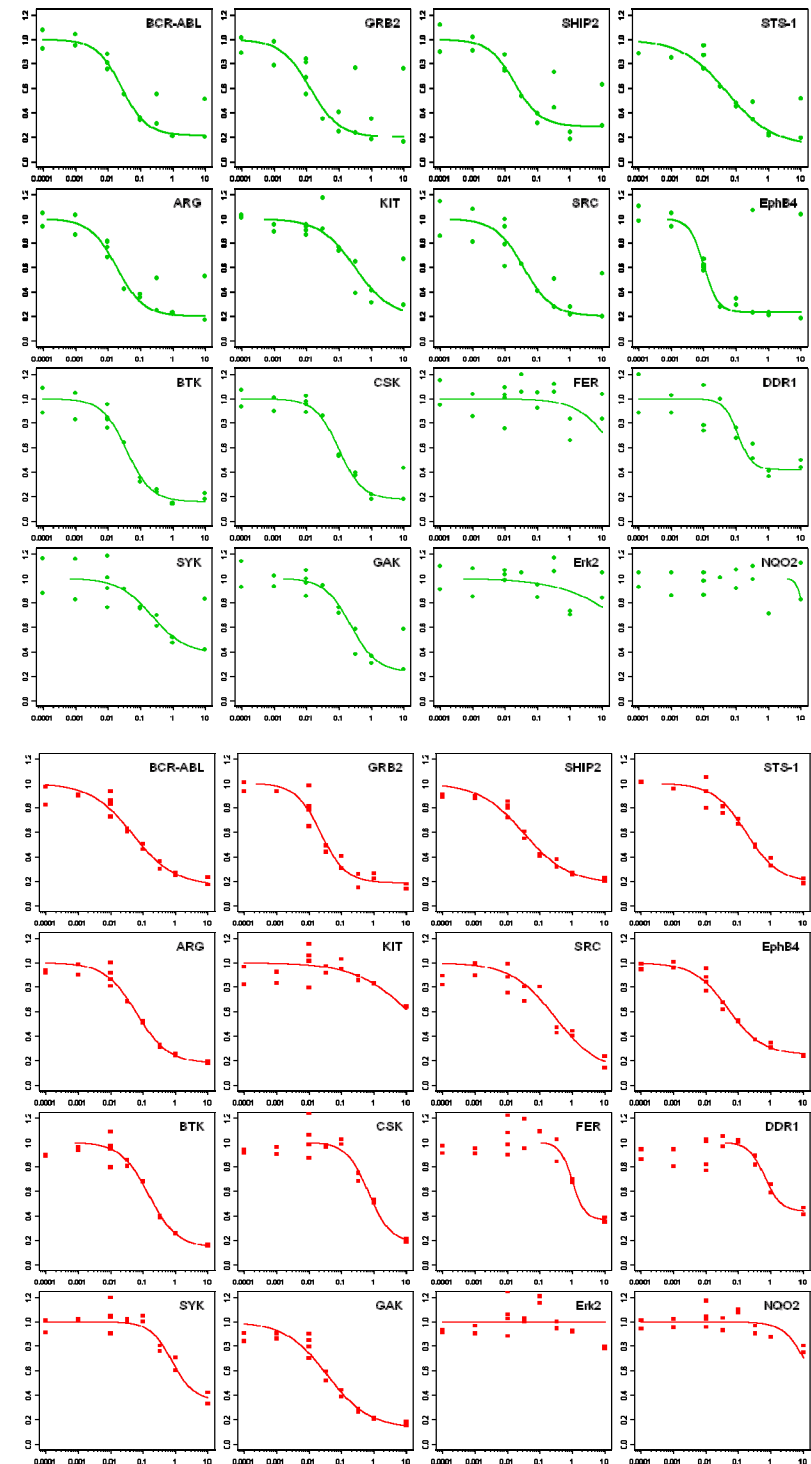
**Supplementary Figure 2** iTRAQ-based quantification of the proteins captured on kinobeads.

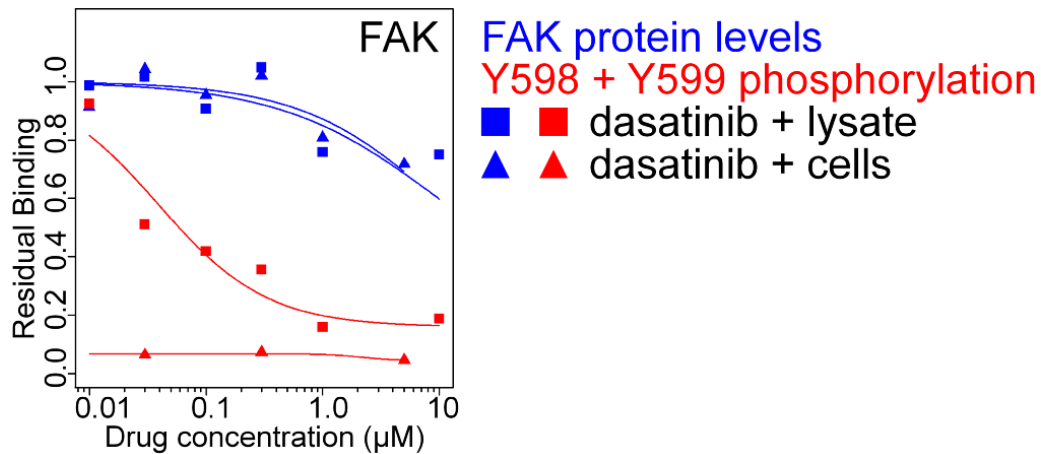
Distribution of iTRAQ areas for all proteins identified on kinobeads. Blue bars represent kinases, white bars represent non-kinases. According to **Table 1**, 13% of all proteins identified on kinobeads are protein kinases. However, when using the total iTRAQ ion area as a measure of protein quantity, it is interesting to note that 79% of the total protein is represented by protein kinases (blue bars) compared to 21% for other proteins



**Supplementary Figure 3** Examples of competition binding curves calculated from iTRAQ reporter signals.

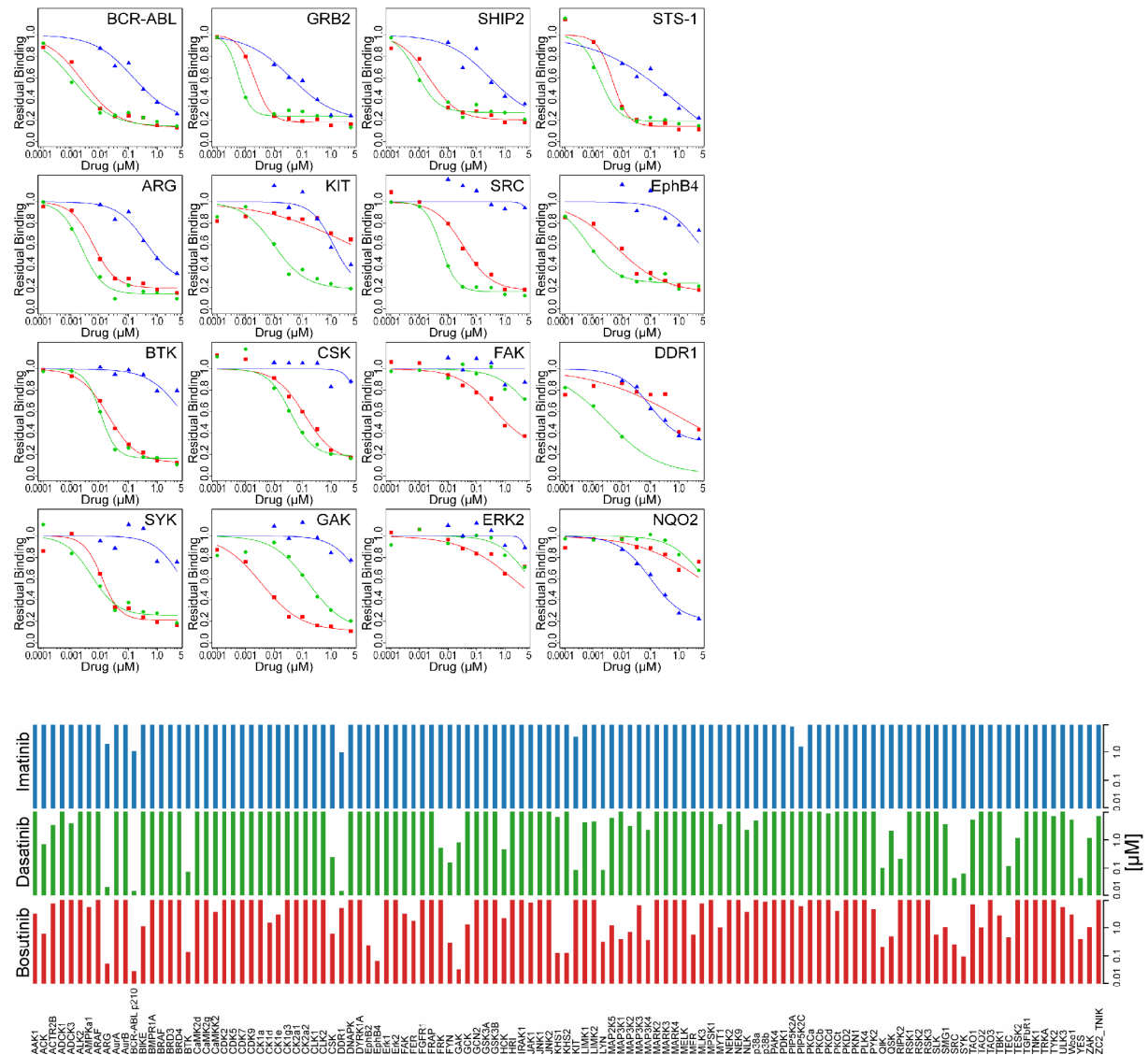
Binding of several known and novel targets to kinobeads is shown as dependent on the addition of imatinib (blue graphs), dasatinib (green graphs), or bosutinib (red graphs) to K562 cell lysate. Competition binding data were recorded from duplicate experiments (defined as two parallel compound treatments, carried out using the same batch of K52 cell lysate used throughout this study) over 6 different concentrations. In this figure, all replicated experiment are shown as separate points; curves were fitted to the averaged value of each duplicate, while the top of the curve was fixed to 1 (vehicle control).





**Supplementary Figure 4** Focal adhesion kinase (FAK/PTK2) binds dasatinib only in an activated conformation.

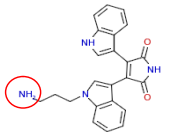
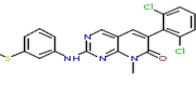
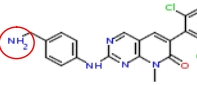
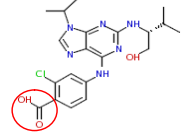
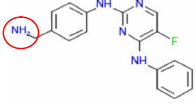
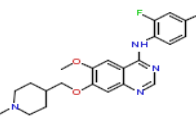
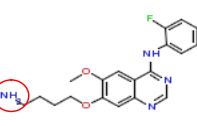
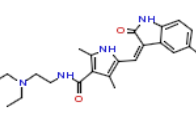
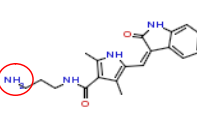
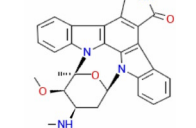
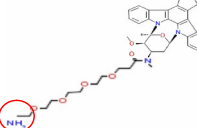
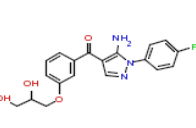
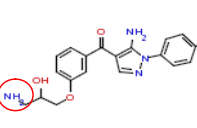
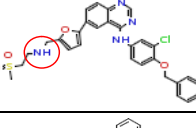
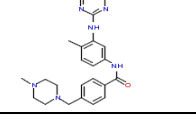
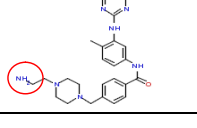
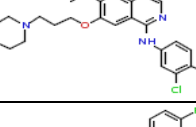
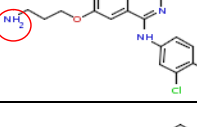
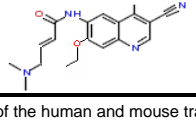
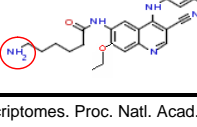
The graphs show the dose-dependent reduction of regulatory phosphorylation sites in dasatinib-treated K562 cells (triangles) or lysates (squares) of a double-phosphorylated regulatory site on focal adhesion kinase (FAK). Whereas the FAK total protein level is only affected at high compound concentrations, a subset of FAK represented by phosphorylation on Y598/599 is affected when dasatinib was added to the lysate (red squares), and even more strongly affected when dasatinib was added to the cultured cells (red triangles).



**Supplementary Figure 5** Proteomic target profiling of drugs in cultured cells by a kinobeads competition assay.

**Upper panel:** Examples of competition binding curves calculated from iTRAQ reporter signals. Binding of selected known and novel targets to kinobeads is shown as dependent on the treatment of K562 cells with imatinib (blue), dasatinib (green), and bosutinib (red) in culture, before cells are lysed. For each compound, three independent quadruplexed experiments (vehicle plus three compound concentrations each) were performed in duplicates, and iTRAQ reporter signal data were combined to display the dose response over 9 different concentrations.

**Lower panel:** Kinase binding profiles of the ABL kinase inhibitors imatinib (upper panel), dasatinib (middle panel), and bosutinib (bottom panel) across a set of protein kinases simultaneously identified from K562 cells treated with the drugs in culture. The bars indicate the IC<sub>50</sub> values, defined as the concentration of drug at which half-maximal competition of kinobeads binding is observed.

| Compound                    | Development status                        | Other names   | Structure<br>○ = site of attachment   | Structure of analogue<br>○ = site of attachment                                     | Known Targets           |   |  |   |  |
|-----------------------------|---|---|---|---|-------------------------|---|--|---|--|
|                             |   |   |   |   | Known Targets           | Expressed in HeLa cells (Ref. 1)  | Found in pulldown  | Expressed in K562 cells (Ref. 1)  | Found in pulldown  |
| Bis-(III) Indolyl-maleimide | Research tool                             | 2-[1-(3-Aminopropyl)-1H-indol-3-yl]-3-(1H-indol-3-yl)maleimide                                  |    |   | PKCs, GSK3              | PKC $\alpha$ , PKC $\beta$ , PKC $\delta$ , PKC $\epsilon$ , GSK3 $\alpha$ , GSK3 $\beta$ | PKC $\alpha$ , PKC $\beta$ , PKC $\delta$ , GSK3 $\alpha$ , GSK3 $\beta$ | PKC $\alpha$ , PKC $\beta$ , PKC $\delta$ , PKC $\epsilon$ , GSK3 $\alpha$ , GSK3 $\beta$ | PKC $\alpha$ , PKC $\beta$ , PKC $\epsilon$ , GSK3 $\alpha$ , GSK3 $\beta$ |
| PD173955                    | pre-clinical                              |   |    |    | Src family kinases, ABL | ABL, BRK, FRK, FYN, LCK, LYN, SRC, YES  | ABL, BRK, FRK, FYN, LYN, YES   | BCR-ABL, FRK, FYN, HCK, LCK, LYN, SRC, YES  | BCR-ABL, FYN, HCK, LYN, SRC, YES   |
| Purvalanol B                | Research tool                             | 6-[(3-Chloro)anilino]-2(1R)-(isopropyl)-2-hydroxyethylamino)-9-isopropylpurine                  |    |   | CDKs                    | CDK2, CDK3, CDK4, CDK5, CDK7, CDK8, CDK9, CDK11   | CDK2, CDK3, CDK5, CDK7, CDK9   | CDK2, CDK5, CDK6, CDK7, CDK9, CDK10   | CDK2, CDK5, CDK7   |
| CZC8004                     | Research tool                             | (N <sup>2</sup> -(4-Amino-methyl-phenyl)-5-Fluoro-N <sup>4</sup> -Phenyl-Pyrimidine-2,4-Diamine |    |   | pan-kinase              |   |  |   |  |
| Vandetanib                  | Phase 3 clinical                          | ZD6474; Zactima® (AstraZeneca)  |    |    | VEGFR, EGFR, RET        | EGFR  | EGFR   |   | NA   |
| Sunitinib                   | Marketed drug                             | SU-11248; Sutent® (Pfizer)  |   |   | VEGFR, PDGFR, FLT3, KIT | PDGFR $\beta$   |  | KIT   |  |
| Staurosporine               | Research tool                             |   |  |  | pan-kinase              |   |  |   |  |
| Ro-320-1195                 | Phase 1 clinical                          |   |  |  | p38                     | p38 $\alpha$ , p38 $\beta$ , p38 $\gamma$   | p38 $\alpha$ , p38 $\beta$   | p38 $\alpha$ , p38 $\beta$  | p38 $\alpha$ , p38 $\beta$   |
| Lapatinib                   | Marketed drug                             | GW-572016; Tykerb® (GSK)  |  |   | EGFR, Her-2             | EGFR, Her-2   | EGFR, Her-2  |   | NA   |
| Imatinib                    | Marketed drug                             | STI-571; Glivec®; Gleevec® (Novartis)   |  |  | ABL, Kit, PDGFR         | ABL, PDGFR $\beta$  |  | BCR-ABL, KIT  | BCR-ABL, KIT   |
| Gefitinib                   | Marketed drug                             | ZD-1839; Iressa® (AstraZeneca)  |  |  | EGFR                    | EGFR  | EGFR   |   | NA   |
| Pelitinib                   | Phase 2 clinical development discontinued | EKB-569 (Wyeth)   |  |  | EGFR, Her-2             | EGFR  |  |   | NA   |

(Ref. 1) Su, A.I. *et al.*: Large-scale analysis of the human and mouse transcriptomes. *Proc. Natl. Acad. Sci. U. S. A* 99, 4465-4470 (2002).

Kinase binding profiles of individual immobilized tool compounds and drugs (data for **Supplementary Fig. 1**). The total number of peptide to spectrum matches (PSMs) are listed as obtained for individual kinases interacting with immobilized tool compounds and drugs. The following compounds or analogues thereof were immobilized: The research tool inhibitors 2-(1-(3-Aminopropyl)-indol-3-yl)-3-(1-methyl-indol-3-yl) maleimide (protein kinase C inhibitor), purvalanol B (cyclin-dependent kinase inhibitor), CZC8004 and staurosporine (pan-kinase inhibitors); and the drugs or drug candidates PD173955 (src kinase inhibitor), vandetanib (VEGFR, EGFR), sunitinib (VEGFR, PDGFR, Flt3, Kit), Ro 320-1195 (p38 MAP kinase), imatinib (Abl, PDGFR, Kit), gefitinib, (EGFR), pelitinib (EGFR), and lapatinib (EGFR, Her-2 inhibitor).

| Family                                 | Name       | IPI acc. nr. | Bis-indolyl<br>maleimide III |      | PD173955<br>analogue |      | Purvalanol B |      | CZC8004 |      | Vande-<br>tanib<br>anal. | Sun-<br>itinib<br>anal. | Stauro-<br>sporin<br>e anal. | Ro3201195<br>analogue | Imatinib<br>analogue | Gefitinib<br>analogue | Peli-<br>tinib<br>anal. | Lapa-<br>tinib<br>anal. |
|--|------------|--------------|------------------------------|------|----------------------|------|--------------|------|---------|------|--------------------------|-------------------------|------------------------------|-----------------------|----------------------|-----------------------|-------------------------|-------------------------|
|  |            |              | HeLa                         | K562 | HeLa                 | K562 | HeLa         | K562 | HeLa    | K562 | HeLa                     | HeLa                    | HeLa                         | K562                  | HeLa                 | K562                  | HeLa                    | K562                    |
| Number of spectrum-to-sequence matches |            |              |                              |      |                      |      |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | ABL        | IPI00221171  |                              |      | 2                    | 211  | 2            |      |         | 46   |                          |                         |                              |                       |                      | 54                    |                         |                         |
| TK                                     | ACK        | IPI00442025  |                              |      |                      | 12   |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | ARG        | IPI00329488  |                              |      | 12                   | 174  | 54           | 19   |         |      |                          |                         |                              |                       |                      | 10                    |                         |                         |
| TK                                     | BLK        | IPI00306217  |                              |      |                      |      | 4            |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | BRK        | IPI00015927  |                              |      | 4                    |      |              |      |         |      | 6                        |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | BTk        | IPI00029132  |                              |      |                      | 238  |              | 37   |         | 34   |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | CSK        | IPI00013212  |                              |      | 30                   | 105  | 8            |      |         |      | 10                       |                         |                              |                       |                      |                       | 5                       |                         |
| TK                                     | DDR1       | IPI00001477  |                              |      |                      | 12   |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | EGFR       | IPI00018274  |                              |      |                      |      |              |      |         |      | 51                       |                         |                              |                       |                      |                       | 3                       | 251                     |
| TK                                     | EphA2      | IPI00021267  |                              |      | 15                   |      | 19           |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | EphA5      | IPI00008290  |                              |      |                      |      | 2            |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | EphA7      | IPI00016645  |                              |      |                      | 1    | 3            |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | EphB1      | IPI00008315  |                              |      |                      |      | 2            |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | EphB2      | IPI00021275  | 1                            |      | 5                    | 1    | 15           |      | 3       |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | EphB3      | IPI00289329  |                              |      |                      |      | 6            |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | EphB4      | IPI00289342  |                              |      | 18                   | 69   | 52           | 4    |         |      | 7                        |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | FAK        | IPI00413961  |                              |      |                      | 11   | 42           | 111  | 22      | 56   |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | FER        | IPI00029263  |                              |      |                      | 58   | 43           | 17   | 21      | 22   |                          | 32                      | 49                           |                       |                      |                       |                         |                         |
| TK                                     | FGFR1      | IPI00005142  |                              |      |                      | 3    |              |      |         |      |                          |                         |                              |                       |                      |                       | 38                      |                         |
| TK                                     | FGR        | IPI00016871  |                              |      |                      |      | 1            |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | FRK        | IPI00000885  |                              |      | 1                    |      |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | FYN        | IPI00219012  |                              |      | 3                    | 10   | 17           | 5    |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | HCK        | IPI00029769  |                              |      |                      | 7    | 1            | 2    |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | HER4/ErbB4 | IPI00016371  |                              |      |                      |      |              |      |         |      |                          |                         |                              |                       |                      |                       |                         | 1                       |
| TK                                     | IGF1R      | IPI00027232  |                              |      |                      |      | 29           |      | 13      | 1    |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | INSR       | IPI00025803  |                              |      |                      |      | 40           |      | 10      |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | JAK1       | IPI00011633  |                              |      |                      |      |              |      | 45      | 12   |                          | 120                     |                              |                       |                      |                       |                         |                         |
| TK                                     | KIT        | IPI00022296  |                              |      |                      | 1    |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | LYN        | IPI00298625  |                              |      | 34                   | 91   | 87           |      | 5       | 36   |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | PYK2       | IPI00029702  |                              |      |                      | 13   | 6            | 57   |         | 7    |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | SRC        | IPI00328867  |                              |      |                      | 21   | 7            | 24   |         | 1    | 1                        |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | SYK        | IPI00018597  |                              |      |                      | 12   |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | TEC        | IPI00000878  |                              |      | 1                    | 43   | 10           | 24   | 15      | 39   |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | TNK1       | IPI00022633  | 53                           |      | 12                   | 13   | 18           |      | 123     | 10   | 38                       | 35                      | 100                          |                       | 5                    | 4                     |                         |                         |
| TK                                     | TRKA       | IPI00025076  |                              |      |                      |      |              | 5    |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | TYK2       | IPI00022353  |                              |      |                      |      | 20           |      | 49      | 25   |                          |                         |                              |                       |                      |                       |                         |                         |
| TK                                     | YES        | IPI00013981  | 4                            |      | 110                  | 136  | 390          | 34   | 117     | 16   | 160                      | 88                      |                              |                       |                      |                       |                         |                         |
| TKL                                    | ACTR2      | IPI00015691  |                              |      | 7                    |      |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TKL                                    | ALK2       | IPI00029219  |                              |      | 1                    | 10   |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TKL                                    | ARAF       | IPI00020578  |                              |      |                      | 1    |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TKL                                    | BMPR1A     | IPI00005731  |                              |      |                      | 1    |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TKL                                    | BRAF       | IPI00303797  |                              |      | 2                    | 7    |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TKL                                    | ILK        | IPI00025644  |                              |      |                      |      | 33           |      |         |      |                          |                         |                              |                       |                      |                       |                         | 34                      |
| TKL                                    | LIMK2      | IPI00022872  |                              |      |                      | 2    |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TKL                                    | MLK3       | IPI00000977  |                              |      |                      |      | 12           | 5    |         |      |                          | 1                       |                              |                       |                      |                       |                         |                         |
| TKL                                    | RIPK2      | IPI00021917  |                              |      | 21                   | 66   |              |      |         | 126  |                          |                         | 6                            |                       |                      | 161                   | 172                     |                         |
| TKL                                    | TESK2      | IPI00102677  |                              |      |                      | 3    |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TKL                                    | TGFbR1     | IPI00005733  |                              |      | 11                   | 8    |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| TKL                                    | ZAK        | IPI00329638  |                              |      | 3                    | 47   |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| STE                                    | GCK        | IPI00149094  |                              |      |                      | 2    | 2            |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| STE                                    | KHS1       | IPI00294842  |                              |      |                      | 19   |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| STE                                    | MAP2K1     | IPI00219604  |                              |      |                      |      |              |      |         |      | 2                        |                         |                              |                       |                      |                       |                         | 25                      |
| STE                                    | MAP2K2     | IPI00003783  |                              |      |                      | 1    |              |      |         |      | 21                       |                         |                              |                       |                      |                       |                         | 1                       |
| STE                                    | MAP2K5     | IPI00185860  |                              |      |                      | 6    | 1            |      | 1       | 4    |                          |                         |                              |                       |                      |                       |                         |                         |
| STE                                    | MAP3K1     | IPI00012318  |                              |      |                      | 12   |              |      |         |      |                          |                         |                              |                       |                      |                       | 3                       | 31                      |
| STE                                    | MAP3K2     | IPI00513803  |                              |      |                      |      | 1            |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| STE                                    | MAP3K3     | IPI00181703  |                              |      |                      | 1    |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| STE                                    | MAP3K4     | IPI00386260  |                              |      |                      | 82   |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| STE                                    | MST1       | IPI00011488  |                              |      |                      |      |              |      |         |      | 6                        |                         |                              |                       |                      |                       |                         |                         |
| STE                                    | PAK4       | IPI00014068  |                              |      |                      |      | 65           | 16   |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| STE                                    | PAK5       | IPI00001814  |                              |      |                      |      | 2            |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| STE                                    | SLK        | IPI00022827  |                              |      |                      |      | 2            |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| STE                                    | TAO1       | IPI00002232  |                              |      |                      | 1    |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| STE                                    | TAO3       | IPI00410485  |                              |      |                      | 5    |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| CK1                                    | CK1a       | IPI00448798  |                              |      |                      |      | 12           | 10   |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| CK1                                    | CK1a2      | IPI00167096  |                              |      |                      |      | 4            |      |         |      |                          |                         |                              |                       |                      |                       |                         | 1                       |
| CK1                                    | CK1d       | IPI00011102  |                              |      |                      |      | 6            | 19   |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| CK1                                    | CK1e       | IPI00027729  |                              |      |                      |      | 10           | 7    |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| CK1                                    | CK1g1      | IPI00465058  |                              |      |                      |      | 8            | 2    |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| CK1                                    | CK1g2      | IPI00297767  |                              |      |                      |      | 3            |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| CK1                                    | CK1g3      | IPI00218437  |                              |      |                      |      | 37           | 11   |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| AGC                                    | MRCKa      | IPI00640957  |                              |      |                      |      |              |      | 8       |      |                          |                         |                              |                       |                      |                       |                         |                         |
| AGC                                    | MSK2       | IPI00022536  |                              |      |                      |      | 2            |      |         |      | 3                        |                         |                              |                       |                      |                       |                         |                         |
| AGC                                    | PDK1       | IPI00002538  |                              |      |                      |      |              |      |         |      |                          | 33                      |                              |                       |                      |                       |                         |                         |
| AGC                                    | PKCa       | IPI00385449  | 4                            |      |                      |      |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| AGC                                    | PKCb       | IPI00219628  |                              | 16   |                      |      |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| AGC                                    | PKCd       | IPI00329236  | 4                            |      |                      |      |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| AGC                                    | PKCg       | IPI00007128  |                              |      |                      |      | 2            |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| AGC                                    | PKCt       | IPI00029196  |                              | 14   |                      |      |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| AGC                                    | PKN3       | IPI00413780  |                              |      |                      | 1    |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| AGC                                    | ROCK2      | IPI00307155  |                              |      |                      |      | 3            |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| AGC                                    | RSK2       | IPI00020898  | 3                            |      |                      |      | 12           |      |         |      |                          | 2                       |                              |                       |                      |                       |                         |                         |
| AGC                                    | RSK3       | IPI00477982  |                              |      |                      |      | 42           | 26   |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| AGC                                    | RSK4       | IPI00007123  |                              |      |                      |      | 2            |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| AGC                                    | SGK3       | IPI00655852  |                              |      |                      |      | 1            |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |
| CAMK                                   | AMPA1      | IPI00410287  | 10                           | 2    | 4                    | 27   | 89           | 57   | 1       |      | 80                       | 35                      |                              |                       |                      |                       |                         |                         |

| Family       | Name     | IPI acc. nr. | Bis-indolyl<br>maleimide III           |      | PD173955<br>analogue |      | Purvalanol B |      | CZC8004 |      | Vande-<br>tanib<br>anal. | Sun-<br>itinib<br>anal. | Stauro-<br>sporin<br>e anal. | Ro3201195<br>analogue | Imatinib<br>analogue | Gefitinib<br>analogue | Peli-<br>tinib<br>anal. | Lapa-<br>tinib<br>anal. |      |      |      |
|--------------|----------|--------------|--|------|----------------------|------|--------------|------|---------|------|--------------------------|-------------------------|------------------------------|-----------------------|----------------------|-----------------------|-------------------------|-------------------------|------|------|------|
|              |          |              | Number of spectrum-to-sequence matches |      |                      |      |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
|              |          |              | HeLa                                   | K562 | HeLa                 | K562 | HeLa         | K562 | HeLa    | K562 | HeLa                     | HeLa                    | HeLa                         | HeLa                  | K562                 | HeLa                  | K562                    | HeLa                    | K562 | HeLa | HeLa |
| CAMK         | AMPKa2   | IPI00307755  |  |      |                      |      |              |      |         |      |                          | 1                       | 4                            |                       |                      |                       |                         |                         |      |      |      |
| CAMK         | CHK1     | IPI00023664  | 2                                      |      |                      |      |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| CAMK         | CaMK2a   | IPI00550056  |  |      |                      |      | 1            |      |         |      |                          | 16                      | 140                          | 5                     |                      |                       | 13                      | 1                       |      |      |      |
| CAMK         | CaMK2b   | IPI00221305  | 2                                      |      |                      |      |              | 3    |         |      |                          | 3                       | 13                           |                       |                      |                       |                         |                         |      |      |      |
| CAMK         | CaMK2d   | IPI00430291  | 24                                     |      |                      |      |              | 121  | 1       | 36   |                          | 4                       | 117                          | 37                    |                      |                       |                         |                         |      |      |      |
| CAMK         | CaMK2g   | IPI00169392  | 28                                     | 8    |                      |      | 1            | 122  | 51      | 91   | 28                       | 3                       | 182                          | 59                    |                      |                       |                         |                         |      |      |      |
| CAMK         | DCaMKL3  | IPI00028196  | 1                                      |      |                      |      |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| CAMK         | MAPKAPK2 | IPI00026054  |  |      |                      |      |              |      |         |      |                          |                         |                              |                       | 19                   |                       |                         |                         |      |      |      |
| CAMK         | MAPKAPK3 | IPI00005777  |  |      |                      |      |              |      |         |      |                          |                         |                              |                       | 20                   |                       |                         |                         |      |      |      |
| CAMK         | MARK2    | IPI00555838  |  |      |                      |      | 16           |      |         |      |                          |                         | 59                           |                       |                      |                       |                         |                         |      |      |      |
| CAMK         | MARK3    | IPI00183118  |  |      |                      |      |              |      |         |      |                          |                         | 3                            |                       |                      |                       |                         |                         |      |      |      |
| CAMK         | MARK4    | IPI00064797  |  |      |                      |      | 1            |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| CAMK         | MELK     | IPI00006471  |  |      |                      |      |              | 6    |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| CAMK         | PHKq2    | IPI00012891  |  |      |                      |      |              | 8    |         |      |                          |                         | 4                            |                       |                      |                       |                         |                         |      |      |      |
| CAMK         | PKD2     | IPI00009334  |  |      |                      |      | 11           |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| CAMK         | QIK      | IPI00465291  |  |      |                      |      | 23           |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| CAMK         | QSK      | IPI00657720  |  |      |                      |      | 4            |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| CAMK         | TTN      | IPI00179357  |  |      |                      |      |              | 8    |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| Other        | AAK1     | IPI00298977  | 5                                      |      |                      |      |              |      |         | 121  | 44                       |                         | 96                           |                       |                      |                       |                         |                         |      |      |      |
| Other        | AurA     | IPI00298940  |  |      |                      | 3    | 1            | 2    |         | 145  | 16                       | 3                       | 98                           | 165                   |                      |                       |                         |                         |      |      |      |
| Other        | AurB     | IPI00176642  |  |      |                      |      |              | 1    |         | 40   | 8                        | 31                      | 46                           | 7                     |                      |                       |                         |                         |      |      |      |
| Other        | BIKE     | IPI00337426  |  |      |                      |      |              |      |         | 7    | 44                       |                         | 12                           |                       |                      |                       |                         |                         |      |      |      |
| Other        | CK2a1    | IPI00016613  |  |      |                      |      | 9            |      |         | 10   | 27                       |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| Other        | CK2a2    | IPI00020602  |  |      |                      |      |              |      |         | 11   | 53                       |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| Other        | CaMKK1   | IPI00166909  |  |      |                      |      |              |      |         |      |                          |                         | 7                            |                       |                      |                       |                         |                         |      |      |      |
| Other        | CaMKK2   | IPI00290239  |  |      |                      |      |              | 15   | 10      |      |                          |                         |                              | 10                    |                      |                       |                         |                         |      |      |      |
| Other        | GAK      | IPI00298949  |  |      | 1                    | 30   | 267          |      |         | 35   | 21                       |                         |                              |                       | 17                   |                       | 6                       | 27                      | 109  |      |      |
| Other        | GCN2     | IPI00163851  |  |      |                      |      | 2            |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| Other        | HRI      | IPI00328149  |  |      |                      |      | 3            |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| Other        | IKKe     | IPI00029045  |  |      |                      |      |              |      |         | 23   |                          |                         | 29                           | 10                    |                      |                       |                         |                         |      |      |      |
| Other        | MPSK1    | IPI00306833  |  |      |                      | 1    |              | 9    |         | 15   | 6                        |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| Other        | MYT1     | IPI00384765  |  |      |                      |      | 13           |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| Other        | NEK2     | IPI00021331  |  |      |                      |      | 3            |      |         |      |                          |                         | 24                           |                       |                      |                       |                         |                         |      |      |      |
| Other        | NEK9     | IPI00301609  |  |      |                      |      |              | 267  | 105     | 52   | 47                       |                         | 10                           |                       |                      | 1                     |                         |                         |      |      |      |
| Other        | PLK1     | IPI00021248  |  |      |                      |      |              | 4    |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| Other        | PLK4     | IPI00410344  |  |      |                      |      |              |      |         | 1    |                          | 1                       |                              | 5                     |                      |                       |                         |                         |      |      |      |
| Other        | TBK1     | IPI00293613  |  |      |                      | 2    | 2            |      |         | 168  | 88                       |                         | 308                          | 118                   |                      |                       |                         |                         |      |      |      |
| Other        | ULK3     | IPI00411818  |  |      |                      | 3    | 16           |      |         | 16   | 15                       |                         | 54                           |                       |                      |                       |                         |                         | 3    |      |      |
| Other        | Wee1     | IPI00025830  |  |      |                      |      | 45           | 19   | 3       | 2    | 3                        |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| CMGC         | CDC2     | IPI00026689  | 3                                      |      |                      |      |              | 11   |         |      |                          |                         |                              |                       |                      | 2                     |                         | 1                       |      |      |      |
| CMGC         | CDK2     | IPI00031681  | 8                                      |      | 7                    |      |              | 29   | 12      | 29   |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| CMGC         | CDK3     | IPI00023503  | 1                                      |      |                      |      |              | 2    |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| CMGC         | CDK5     | IPI00023530  |  |      |                      |      |              | 100  | 41      |      |                          |                         |                              |                       |                      |                       |                         | 10                      |      |      |      |
| CMGC         | CDK7     | IPI00000685  |  |      |                      |      |              | 24   | 6       |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| CMGC         | CDK9     | IPI00552413  |  |      |                      |      |              | 4    | 1       | 6    |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| CMGC         | CLK1     | IPI00028061  |  |      |                      |      |              |      | 2       |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| CMGC         | CRK7     | IPI00021175  |  |      |                      |      |              | 1    |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| CMGC         | Erk1     | IPI00018195  |  |      |                      | 2    | 37           | 39   |         |      |                          |                         |                              |                       |                      |                       |                         | 2                       |      |      |      |
| CMGC         | Erk2     | IPI00003479  |  |      | 2                    | 21   | 213          | 202  | 152     |      |                          | 2                       | 1                            |                       |                      |                       | 8                       | 13                      |      |      |      |
| CMGC         | Erk7     | IPI00165955  |  |      |                      |      |              | 1    |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| CMGC         | GSK3A    | IPI00292228  | 166                                    | 88   |                      |      |              |      |         | 75   | 7                        |                         |                              | 13                    |                      |                       |                         |                         |      |      |      |
| CMGC         | GSK3B    | IPI00216190  | 206                                    | 73   |                      |      |              |      |         | 70   | 8                        |                         |                              | 7                     |                      |                       |                         |                         |      |      |      |
| CMGC         | JNK1     | IPI00024672  |  |      |                      | 7    | 62           |      |         | 74   | 42                       |                         |                              |                       |                      |                       |                         | 2                       | 1    |      |      |
| CMGC         | JNK2     | IPI00303550  |  |      |                      | 6    | 7            |      |         | 150  | 39                       |                         | 2                            |                       |                      |                       | 1                       | 6                       |      |      |      |
| CMGC         | JNK3     | IPI00023547  |  |      |                      |      | 2            |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| CMGC         | NLK      | IPI00008237  |  |      |                      |      | 5            | 2    |         |      |                          |                         |                              |                       |                      |                       | 9                       | 19                      |      |      |      |
| CMGC         | p38a     | IPI00002857  | 3                                      |      |                      | 31   | 69           | 2    |         |      |                          | 5                       |                              |                       | 71                   | 80                    |                         |                         |      |      |      |
| CMGC         | p38b     | IPI00019473  |  |      |                      |      | 1            |      |         |      |                          |                         |                              |                       | 11                   |                       |                         |                         |      |      |      |
| Lipid Kinase | PIK3C2a  | IPI00002580  |  |      |                      |      |              | 1    |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| Lipid Kinase | PIP5K2C  | IPI00152303  |  |      |                      | 5    |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| Atypical     | A6       | IPI00183508  | 1                                      |      |                      |      |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| Atypical     | ADCK3    | IPI00176469  |  |      |                      |      | 37           |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| Atypical     | ATM      | IPI00298306  | 6                                      |      |                      | 16   |              | 2    |         |      |                          |                         |                              |                       |                      |                       |                         |                         | 6    |      |      |
| Atypical     | ATR      | IPI00412298  | 1                                      |      |                      |      |              | 3    |         |      |                          | 1                       |                              |                       |                      |                       |                         |                         | 7    |      |      |
| Atypical     | BCR      | IPI00004497  |  |      |                      |      | 193          |      |         |      | 43                       |                         |                              |                       |                      | 52                    |                         |                         |      |      |      |
| Atypical     | BRD3     | IPI00014266  |  |      |                      |      |              |      |         | 1    | 2                        |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| Atypical     | BRD4     | IPI00440727  |  |      |                      |      |              |      |         |      | 1                        |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| Atypical     | DNAPK    | IPI00296337  | 472                                    | 242  | 277                  | 290  | 346          | 49   | 63      |      | 218                      |                         | 1                            | 48                    | 82                   | 5                     | 381                     | 7                       | 31   | 14   | 281  |
| Atypical     | FRAP     | IPI00513678  | 36                                     | 8    | 15                   |      | 16           |      | 3       |      | 57                       |                         |                              |                       |                      | 20                    |                         |                         |      | 10   |      |
| Atypical     | PDHK3    | IPI00014849  |  |      |                      |      |              |      |         |      |                          | 1                       |                              |                       |                      |                       |                         |                         |      |      |      |
| Atypical     | TRRAP    | IPI00069084  | 2                                      |      |                      |      |              |      |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |
| TIF1         | TIF1b    | IPI00438229  | 1                                      |      |                      |      |              | 3    |         |      |                          |                         |                              |                       |                      |                       |                         |                         |      |      |      |



| Protein family | Subfamily | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|----------------|-----------|--|--------------|--|----------|--------|------|-------|
|                |           |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Kinase         | TK        | ABL  | IPI00221171  | 269                                    | 198      | 747    | 33   | 574   |
| Kinase         | TK        | ACK  | IPI00442025  | 200                                    | 44       | 81     | 129  | 423   |
| Kinase         | TK        | ARG  | IPI00329488  | 942                                    | 81       | 501    | 788  | 823   |
| Kinase         | TK        | BCR-ABL  | NA           | 208                                    | 197      |        | 5159 | 36    |
| Kinase         | TK        | BLK  | IPI00306217  |  |          | 78     |      | 838   |
| Kinase         | TK        | BMX  | IPI00020899  |  | 99       |        | 4    |       |
| Kinase         | TK        | BRK  | IPI00015927  | 99                                     |          |        |      |       |
| Kinase         | TK        | BTX  | IPI00029132  |  | 239      | 10     | 2654 | 4167  |
| Kinase         | TK        | CSK  | IPI00013212  | 1539                                   | 306      | 1601   | 1686 | 1908  |
| Kinase         | TK        | DDR1   | IPI00001477  | 239                                    | 179      | 26     | 84   | 49    |
| Kinase         | TK        | DDR2   | IPI00004409  |  | 86       |        | 51   |       |
| Kinase         | TK        | EGFR   | IPI00018274  | 148                                    | 497      |        |      |       |
| Kinase         | TK        | EphA1  | IPI00294250  | 3                                      | 162      |        |      |       |
| Kinase         | TK        | EphA2  | IPI00021267  | 851                                    | 241      |        |      |       |
| Kinase         | TK        | EphA3  | IPI00298105  | 71                                     | 130      | 76     |      |       |
| Kinase         | TK        | EphA4  | IPI00008318  |  | 26       |        | 4    | 1     |
| Kinase         | TK        | EphA5  | IPI00008290  |  | 22       |        | 3    |       |
| Kinase         | TK        | EphA7  | IPI00016645  |  | 2        |        |      |       |
| Kinase         | TK        | EphB1  | IPI00008315  |  |          | 2      | 16   |       |
| Kinase         | TK        | EphB2  | IPI00021275  | 188                                    | 274      | 186    | 28   |       |
| Kinase         | TK        | EphB3  | IPI00289329  |  | 57       |        |      | 2     |
| Kinase         | TK        | EphB4  | IPI00289342  | 591                                    | 1299     | 6      | 408  | 2     |
| Kinase         | TK        | EphB6  | IPI00005222  |  | 5        | 68     | 1    |       |
| Kinase         | TK        | FAK  | IPI00413961  | 279                                    | 390      | 169    | 1021 | 227   |
| Kinase         | TK        | FER  | IPI00029263  | 330                                    | 271      | 166    | 258  | 128   |
| Kinase         | TK        | FES  | IPI00294344  |  | 427      |        |      |       |
| Kinase         | TK        | FGFR1  | IPI00005142  | 19                                     | 40       | 46     | 82   |       |
| Kinase         | TK        | FGFR3  | IPI00220253  | 1                                      |          |        |      |       |
| Kinase         | TK        | FGFR4  | IPI00304578  | 19                                     |          |        |      |       |
| Kinase         | TK        | FGR  | IPI00016871  |  | 71       | 5      |      | 44    |
| Kinase         | TK        | FLT3   | IPI00005722  |  |          |        |      | 11    |
| Kinase         | TK        | FLT4   | IPI00293565  |  | 364      |        | 12   |       |
| Kinase         | TK        | FMS  | IPI00011218  |  | 64       |        |      |       |
| Kinase         | TK        | FRK  | IPI00000885  | 100                                    | 33       |        | 58   |       |
| Kinase         | TK        | FYN  | IPI00219012  | 99                                     | 78       | 145    | 159  | 129   |
| Kinase         | TK        | HCK  | IPI00029769  |  | 187      |        | 61   |       |
| Kinase         | TK        | HER2/ErbB2   | IPI00300384  |  | 3        |        |      |       |
| Kinase         | TK        | HER3/ErbB3   | IPI00298285  | 74                                     |          |        |      |       |
| Kinase         | TK        | IGF1R  | IPI00027232  | 36                                     | 22       | 3      |      | 34    |
| Kinase         | TK        | INSR   | IPI00025803  | 44                                     | 44       | 3      | 3    | 74    |
| Kinase         | TK        | ITK  | IPI00004566  |  | 1        | 1484   | 1    |       |
| Kinase         | TK        | JAK1   | IPI00011633  | 506                                    | 374      | 800    | 304  | 2576  |
| Kinase         | TK        | JAK2   | IPI00031016  | 6                                      |          | 46     | 40   | 119   |
| Kinase         | TK        | JAK3   | IPI00219418  | 7                                      | 2        | 50     |      | 16    |
| Kinase         | TK        | KDR  | IPI00021396  |  | 72       |        |      |       |
| Kinase         | TK        | KIT  | IPI00022296  |  | 27       |        | 140  |       |
| Kinase         | TK        | LCK  | IPI00394952  | 6                                      | 16       | 3818   | 112  | 810   |
| Kinase         | TK        | LYN  | IPI00298625  | 417                                    | 815      | 1      | 413  | 944   |
| Kinase         | TK        | MER  | IPI00029756  |  | 18       | 13     | 23   |       |
| Kinase         | TK        | MET  | IPI00294528  | 102                                    | 36       |        |      |       |
| Kinase         | TK        | PDGFRa   | IPI00027721  |  | 137      |        |      |       |
| Kinase         | TK        | PDGFRb   | IPI00015902  | 13                                     | 539      | 3      |      |       |
| Kinase         | TK        | PYK2   | IPI00029702  | 68                                     | 218      | 1519   | 852  | 2704  |
| Kinase         | TK        | RON  | IPI00030273  | 131                                    |          |        |      |       |
| Kinase         | TK        | SRC  | IPI00328867  | 14                                     | 739      | 289    | 112  | 8     |
| Kinase         | TK        | SYK  | IPI00018597  |  | 57       | 6      | 176  | 203   |
| Kinase         | TK        | TEC  | IPI00000878  | 127                                    | 32       | 39     | 430  | 159   |
| Kinase         | TK        | TIE2   | IPI00412829  |  | 151      |        |      |       |
| Kinase         | TK        | TNK1   | IPI00022633  | 1332                                   | 6        | 1      | 175  |       |
| Kinase         | TK        | TRKA   | IPI00025076  |  |          |        | 60   |       |
| Kinase         | TK        | TXK  | IPI00000879  |  |          | 2      |      |       |
| Kinase         | TK        | TYK2   | IPI00022353  | 302                                    | 21       | 509    | 227  | 540   |
| Kinase         | TK        | YES  | IPI00013981  | 1767                                   | 823      | 128    | 552  | 1     |
| Kinase         | TK        | ZAP70  | IPI00329789  |  |          | 74     |      |       |
| Kinase         | TKL       | ACTR2  | IPI00015691  | 102                                    | 26       |        | 8    | 28    |
| Kinase         | TKL       | ACTR2B   | IPI00437565  | 16                                     | 23       | 44     | 26   | 48    |
| Kinase         | TKL       | ALK1   | IPI00293271  |  | 3        |        | 6    |       |
| Kinase         | TKL       | ALK2   | IPI00029219  | 36                                     | 105      | 88     | 56   | 4     |
| Kinase         | TKL       | ALK4   | IPI00005732  | 42                                     | 8        | 19     | 11   | 18    |
| Kinase         | TKL       | ARAF   | IPI00020578  | 37                                     | 6        | 36     | 33   | 59    |
| Kinase         | TKL       | BMPR1A   | IPI00005731  | 79                                     | 21       | 38     | 30   | 52    |
| Kinase         | TKL       | BMPR2  | IPI00221246  | 16                                     |          |        |      | 19    |
| Kinase         | TKL       | BRAF   | IPI00303797  | 137                                    | 53       | 2      | 20   | 40    |
| Kinase         | TKL       | DLK  | IPI00292181  |  |          | 33     |      | 4     |
| Kinase         | TKL       | ILK  | IPI00025644  | 74                                     | 35       | 57     | 10   | 2     |
| Kinase         | TKL       | IRAK1  | IPI00293652  | 29                                     |          | 34     | 33   | 29    |
| Kinase         | TKL       | IRAK3  | IPI00026984  |  | 24       |        |      |       |
| Kinase         | TKL       | IRAK4  | IPI00007641  |  |          | 2      |      |       |
| Kinase         | TKL       | KSR1   | IPI000514547 |  |          |        | 3    |       |
| Kinase         | TKL       | LIMK1  | IPI00291702  | 55                                     | 42       | 111    | 49   | 217   |
| Kinase         | TKL       | LIMK2  | IPI00022872  | 54                                     | 266      | 225    | 103  | 160   |
| Kinase         | TKL       | LRRK1  | IPI00306522  |  |          |        | 3    | 3     |
| Kinase         | TKL       | LRRK2  | IPI00175649  |  | 14       |        | 11   |       |
| Kinase         | TKL       | MLK1   | IPI00179189  | 26                                     |          | 38     | 8    | 49    |
| Kinase         | TKL       | MLK3   | IPI00000977  | 89                                     | 20       | 50     | 37   | 25    |
| Kinase         | TKL       | MLK4   | IPI00142487  | 1                                      |          |        |      |       |
| Kinase         | TKL       | RAF1   | IPI00021786  | 1                                      |          |        |      |       |
| Kinase         | TKL       | RIPK2  | IPI00021917  | 1151                                   | 237      |        | 343  | 1240  |
| Kinase         | TKL       | RIPK3  | IPI00294938  |  | 5        | 12     |      | 74    |
| Kinase         | TKL       | TESK1  | IPI00018182  | 8                                      | 12       | 32     | 8    | 25    |
| Kinase         | TKL       | TESK2  | IPI00102677  |  | 20       | 45     | 32   | 55    |
| Kinase         | TKL       | TGFB1R1  | IPI00005733  | 169                                    | 238      | 13     | 79   | 61    |
| Kinase         | TKL       | TGFB1R2  | IPI00164934  | 21                                     | 52       | 4      | 19   | 62    |
| Kinase         | TKL       | ZAK  | IPI00329638  | 182                                    | 151      | 190    | 242  | 32    |
| Kinase         | STE       | GCK  | IPI00149094  | 45                                     | 35       | 73     | 38   | 51    |
| Kinase         | STE       | HPK1   | IPI00020258  |  | 12       | 190    | 10   | 168   |
| Kinase         | STE       | KHS1   | IPI00294842  | 41                                     | 82       | 123    | 82   | 73    |
| Kinase         | STE       | KHS2   | IPI00217024  | 32                                     | 38       | 8      | 51   | 3     |
| Kinase         | STE       | LOK  | IPI00304742  |  | 1        |        |      | 18    |
| Kinase         | STE       | MAP2K1   | IPI00219604  | 14                                     | 3        |        | 10   | 22    |
| Kinase         | STE       | MAP2K2   | IPI00003783  | 27                                     | 10       |        | 17   | 16    |
| Kinase         | STE       | MAP2K4   | IPI00024674  | 1                                      | 18       |        |      |       |
| Kinase         | STE       | MAP2K5   | IPI00185860  | 17                                     | 15       | 29     | 31   | 24    |
| Kinase         | STE       | MAP3K1   | IPI00012318  | 191                                    | 12       | 103    | 280  | 872   |
| Kinase         | STE       | MAP3K2   | IPI00513803  | 49                                     | 87       | 97     | 19   | 30    |

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|----------------|-----------|--|--------------|--|----------|--------|------|-------|--|
|                |           |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |  |
| Kinase         | STE       | MAP3K3   | IPI00181703  | 17                                     | 70       | 55     | 39   | 27    |  |
| Kinase         | STE       | MAP3K4   | IPI00386260  | 127                                    | 44       | 403    | 932  | 447   |  |
| Kinase         | STE       | MAP3K5   | IPI00412433  | 27                                     |          | 47     | 5    | 98    |  |
| Kinase         | STE       | MAP3K6   | IPI00418221  | 9                                      |          |        | 4    |       |  |
| Kinase         | STE       | MAP3K7   | IPI00412740  | 4                                      |          |        |      |       |  |
| Kinase         | STE       | MST1   | IPI00011488  | 20                                     | 2        | 39     | 4    | 25    |  |
| Kinase         | STE       | MST2   | IPI00411984  | 2                                      | 10       |        |      |       |  |
| Kinase         | STE       | MST4   | IPI00292827  | 2                                      |          |        |      |       |  |
| Kinase         | STE       | PAK4   | IPI00014068  | 192                                    | 163      | 116    | 105  | 105   |  |
| Kinase         | STE       | PAK5   | IPI00001814  |  |          |        |      |       |  |
| Kinase         | STE       | SLK  | IPI00022827  | 28                                     | 4        | 28     | 28   | 9     |  |
| Kinase         | STE       | STLK5  | IPI00300700  | 6                                      |          |        |      | 3     |  |
| Kinase         | STE       | TAO1   | IPI00002232  | 19                                     | 49       |        | 6    |       |  |
| Kinase         | STE       | TAO2   | IPI00465168  | 42                                     | 57       | 81     | 111  | 86    |  |
| Kinase         | STE       | TAO3   | IPI00410485  | 11                                     | 26       | 55     | 44   | 13    |  |
| Kinase         | STE       | ZC1/HGK  | IPI00219800  |  |          | 25     | 2    | 2     |  |
| Kinase         | STE       | ZC2/TNIK   | IPI00145805  |  |          | 4      | 49   |       |  |
| Kinase         | CK1       | CK1a   | IPI00448798  | 34                                     | 13       | 63     | 134  | 62    |  |
| Kinase         | CK1       | CK1d   | IPI00011102  | 5                                      | 5        | 2      | 27   | 44    |  |
| Kinase         | CK1       | CK1e   | IPI00027729  | 45                                     | 21       | 68     | 113  | 59    |  |
| Kinase         | CK1       | CK1g1  | IPI00465058  |  |          | 24     | 2    | 6     |  |
| Kinase         | CK1       | CK1g2  | IPI00297767  |  |          | 4      | 8    | 6     |  |
| Kinase         | CK1       | CK1g3  | IPI00218437  | 39                                     | 42       | 16     | 67   | 72    |  |
| Kinase         | AGC       | BARK1  | IPI00012497  |  |          | 1      |      | 2     |  |
| Kinase         | AGC       | BARK2  | IPI00019926  |  |          | 1      |      |       |  |
| Kinase         | AGC       | MSK1   | IPI00335101  |  | 7        | 5      |      | 2     |  |
| Kinase         | AGC       | MSK2   | IPI00022536  | 56                                     | 37       | 18     |      | 20    |  |
| Kinase         | AGC       | PKA  | IPI00002538  | 130                                    | 56       | 146    | 107  | 222   |  |
| Kinase         | AGC       | PKCa   | IPI00385449  | 12                                     | 114      | 78     | 15   | 41    |  |
| Kinase         | AGC       | PKCb   | IPI00219628  |  | 27       | 165    | 338  |       |  |
| Kinase         | AGC       | PKCd   | IPI00329236  | 34                                     | 44       | 15     | 40   | 82    |  |
| Kinase         | AGC       | PKCh   | IPI00184572  |  |          | 2      |      |       |  |
| Kinase         | AGC       | PKCi   | IPI00029196  |  | 5        | 163    | 98   | 65    |  |
| Kinase         | AGC       | PKG1   | IPI00436355  |  | 67       |        |      |       |  |
| Kinase         | AGC       | PKN1   | IPI00412672  |  | 7        | 39     | 18   | 13    |  |
| Kinase         | AGC       | PKN2   | IPI00002804  | 10                                     |          | 16     |      |       |  |
| Kinase         | AGC       | PKN3   | IPI00413780  | 16                                     |          |        | 33   |       |  |
| Kinase         | AGC       | ROCK1  | IPI00022542  |  |          | 5      | 2    |       |  |
| Kinase         | AGC       | ROCK2  | IPI00307155  | 20                                     |          |        |      |       |  |
| Kinase         | AGC       | RSK1   | IPI00300321  |  | 15       | 3      | 33   |       |  |
| Kinase         | AGC       | RSK2   | IPI00020898  | 65                                     | 39       | 73     | 61   | 45    |  |
| Kinase         | AGC       | RSK3   | IPI00477982  | 211                                    | 63       | 197    | 301  | 196   |  |
| Kinase         | AGC       | RSK4   | IPI00007123  |  | 13       |        |      |       |  |
| Kinase         | CAMK      | AMPKa1   | IPI00410287  | 500                                    | 343      | 764    | 434  | 383   |  |
| Kinase         | CAMK      | AMPKa2   | IPI00307755  | 36                                     |          |        |      |       |  |
| Kinase         | CAMK      | BRSK1  | IPI00148020  |  |          | 13     | 12   |       |  |
| Kinase         | CAMK      | BRSK2  | IPI00339265  | 32                                     |          |        |      |       |  |
| Kinase         | CAMK      | CaMK1d   | IPI00170508  |  | 1        | 12     |      | 71    |  |
| Kinase         | CAMK      | CaMK2a   | IPI00550056  |  | 4        |        | 6    | 7     |  |
| Kinase         | CAMK      | CaMK2b   | IPI00221305  |  | 3        | 5      |      | 12    |  |
| Kinase         | CAMK      | CaMK2d   | IPI00430291  | 290                                    | 490      | 564    | 19   | 4369  |  |
| Kinase         | CAMK      | CaMK2g   | IPI00169392  | 702                                    | 1030     | 1868   | 533  | 631   |  |
| Kinase         | CAMK      | CaMK4  | IPI00430411  |  |          | 9      |      | 8     |  |
| Kinase         | CAMK      | CaMLCK   | IPI00304648  | 5                                      |          |        | 4    |       |  |
| Kinase         | CAMK      | CASK   | IPI00024726  |  |          | 3      |      | 2     |  |
| Kinase         | CAMK      | CHK1   | IPI00023664  |  |          | 3      |      | 5     |  |
| Kinase         | CAMK      | CHK2   | IPI00423156  |  |          | 5      |      | 7     |  |
| Kinase         | CAMK      | DRAK2  | IPI00014934  |  |          |        | 1    | 13    |  |
| Kinase         | CAMK      | LKB1   | IPI00219072  |  | 1        |        |      |       |  |
| Kinase         | CAMK      | MAPKAPK2   | IPI00026054  |  |          |        | 4    |       |  |
| Kinase         | CAMK      | MAPKAPK5   | IPI00160672  |  |          | 2      |      |       |  |
| Kinase         | CAMK      | MARK1  | IPI00185037  | 28                                     |          |        |      |       |  |
| Kinase         | CAMK      | MARK2  | IPI00555838  | 383                                    | 140      | 317    | 290  | 331   |  |
| Kinase         | CAMK      | MARK3  | IPI00183118  | 190                                    | 49       | 184    | 179  | 194   |  |
| Kinase         | CAMK      | MARK4  | IPI00064797  |  |          | 58     | 38   | 10    |  |
| Kinase         | CAMK      | MELK   | IPI00006471  | 42                                     |          | 63     | 37   | 37    |  |
| Kinase         | CAMK      | MNK1   | IPI00304048  |  |          |        | 6    |       |  |
| Kinase         | CAMK      | PHKq2  | IPI00012891  | 12                                     |          |        | 4    | 21    |  |
| Kinase         | CAMK      | PIM1   | IPI00005014  |  |          |        | 11   |       |  |
| Kinase         | CAMK      | PKD2   | IPI00009334  | 18                                     | 19       | 38     | 30   | 70    |  |
| Kinase         | CAMK      | PKD3   | IPI00015538  | 5                                      |          | 2      |      | 54    |  |
| Kinase         | CAMK      | QIK  | IPI00465291  | 29                                     | 15       | 115    | 261  | 252   |  |
| Kinase         | CAMK      | QSK  | IPI00657720  | 62                                     | 119      | 158    | 219  | 722   |  |
| Kinase         | CAMK      | SIK  | IPI00025679  | 100                                    |          |        |      |       |  |
| Kinase         | CAMK      | smMLCK   | IPI00413604  |  | 8        |        |      |       |  |
| Kinase         | CAMK      | STK33  | IPI00302351  |  |          | 6      |      |       |  |
| Kinase         | CMGC      | CDC2   | IPI00026689  | 26                                     | 3        | 8      | 13   | 25    |  |
| Kinase         | CMGC      | CDK2   | IPI00031681  | 249                                    | 150      | 180    | 163  | 170   |  |
| Kinase         | CMGC      | CDK3   | IPI00023503  |  |          |        |      | 4     |  |
| Kinase         | CMGC      | CDK5   | IPI00023530  | 230                                    | 125      | 708    | 386  | 482   |  |
| Kinase         | CMGC      | CDK6   | IPI00023529  |  |          | 17     | 5    | 10    |  |
| Kinase         | CMGC      | CDK7   | IPI00000685  | 73                                     | 16       | 58     | 102  | 83    |  |
| Kinase         | CMGC      | CDK9   | IPI00552413  | 72                                     | 2        | 110    | 62   | 104   |  |
| Kinase         | CMGC      | CDK10  | IPI00014873  | 3                                      | 1        |        |      | 10    |  |
| Kinase         | CMGC      | CLK1   | IPI00028061  |  |          | 82     | 64   | 52    |  |
| Kinase         | CMGC      | CLK2   | IPI00028071  | 3                                      |          | 26     | 12   | 30    |  |
| Kinase         | CMGC      | CLK3   | IPI00298896  |  |          | 2      |      |       |  |
| Kinase         | CMGC      | CRK7   | IPI00021175  | 15                                     |          | 16     | 2    | 8     |  |
| Kinase         | CMGC      | DYRK1A   | IPI00014344  | 2                                      |          | 86     | 58   | 43    |  |
| Kinase         | CMGC      | DYRK1B   | IPI00000352  |  |          | 3      |      |       |  |
| Kinase         | CMGC      | Erk1   | IPI00018195  | 53                                     | 29       | 30     | 30   | 66    |  |
| Kinase         | CMGC      | Erk2   | IPI00003479  | 1086                                   | 1124     | 740    | 3170 | 1316  |  |
| Kinase         | CMGC      | Erk3   | IPI00003431  |  |          | 2      | 4    |       |  |
| Kinase         | CMGC      | Erk5   | IPI00219601  |  |          | 18     |      |       |  |
| Kinase         | CMGC      | Erk7   | IPI00165955  | 1                                      |          | 1      |      | 2     |  |
| Kinase         | CMGC      | GSK3A  | IPI00292228  | 557                                    | 251      | 434    | 782  | 245   |  |
| Kinase         | CMGC      | GSK3B  | IPI00216190  | 538                                    | 391      | 600    | 568  | 379   |  |
| Kinase         | CMGC      | HIPK1  | IPI00414744  |  |          | 5      | 8    |       |  |
| Kinase         | CMGC      | ICK  | IPI00181855  |  | 9        | 8      |      |       |  |
| Kinase         | CMGC      | JNK1   | IPI00024672  | 251                                    | 105      | 167    | 638  | 298   |  |
| Kinase         | CMGC      | JNK2   | IPI00303550  | 534                                    | 276      | 181    | 468  | 216   |  |
| Kinase         | CMGC      | JNK3   | IPI00023547  |  | 1        |        |      |       |  |
| Kinase         | CMGC      | NLK  | IPI00008237  | 33                                     |          | 90     | 134  | 45    |  |
| Kinase         | CMGC      | p38a   | IPI00002857  | 1254                                   | 1084     | 969    | 1002 | 1407  |  |
| Kinase         | CMGC      | p38b   | IPI00019473  | 9                                      | 24       | 14     | 26   | 8     |  |
| Kinase         | CMGC      | PCTAIRE2   | IPI00376955  |  |          |        |      | 6     |  |
| Kinase         | Atypical  | A6   | IPI00183508  | 2                                      |          |        |      |       |  |
| Kinase         | Atypical  | ADCK1  | IPI00412099  | 21                                     | 2        | 6      | 11   | 5     |  |
| Kinase         | Atypical  | ADCK3  | IPI00176469  | 54                                     | 6        | 21     | 143  | 28    |  |
| Kinase         | Atypical  | ADCK4  | IPI00647707  | 26                                     |          |        | 9    |       |  |

| Protein family    | Subfamily | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |  |
|-------------------|-----------|--|--------------|--|----------|--------|------|-------|--|
|                   |           |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |  |
| Kinase            | Atypical  | ATM  | IPI00298306  | 79                                     | 12       | 25     | 57   | 203   |  |
| Kinase            | Atypical  | ATR  | IPI00412298  | 71                                     |          | 11     | 8    | 97    |  |
| Kinase            | Atypical  | BCR  | IPI00004497  | 64                                     | 4        |        | 20   | 6     |  |
| Kinase            | Atypical  | BRD2   | IPI00014414  | 13                                     | 1        | 23     | 20   | 17    |  |
| Kinase            | Atypical  | BRD3   | IPI00014266  | 12                                     | 11       | 34     | 39   | 5     |  |
| Kinase            | Atypical  | BRD4   | IPI00440727  | 33                                     |          | 67     | 129  | 142   |  |
| Kinase            | Atypical  | DNAPK  | IPI00296337  | 948                                    | 366      | 793    | 2098 | 1799  |  |
| Kinase            | Atypical  | FRAP   | IPI00513678  | 237                                    | 65       | 114    | 288  | 191   |  |
| Kinase            | Atypical  | PDHK1  | IPI00655704  |  |          |        | 4    | 7     |  |
| Kinase            | Atypical  | PDHK3  | IPI00014849  | 7                                      |          | 5      | 4    | 10    |  |
| Kinase            | Atypical  | TRRAP  | IPI00069084  |  |          | 72     | 49   | 42    |  |
| Kinase            | TIF1      | TIF1b  | IPI00438229  | 5                                      |          | 3      | 12   | 3     |  |
| Kinase            | Non-SUGEN | BMP2 SF  | IPI00027376  | 12                                     | 1        | 6      | 4    | 2     |  |
| Kinase            | Non-SUGEN | CDKL1  | IPI00383161  |  |          |        |      |       |  |
| Kinase            | Non-SUGEN | CLK2P  | IPI00643723  |  |          | 3      |      | 4     |  |
| Kinase            | Non-SUGEN | IPI00396447.2  | IPI00396447  | 5                                      | 2        | 3      | 5    |       |  |
| Kinase            | Non-SUGEN | LOC440332  | IPI00455277  |  |          |        |      | 7     |  |
| Kinase            | Non-SUGEN | MKNK2  | IPI00556585  |  |          |        |      | 1     |  |
| Kinase            | Non-SUGEN | RP11-535K18.3  | IPI00217264  |  |          |        |      | 1     |  |
| Kinase            | Non-SUGEN | SIMILAR TO CASEIN KINASE I, DELTA ISOFORM.                                     | IPI00234463  |  |          | 5      | 30   | 8     |  |
| Kinase            | Non-SUGEN | SIMILAR TO INTEGRAL MEMBRANE GLYCOPROTEIN GP210 P                              | IPI00017837  | 1                                      |          |        |      |       |  |
| Kinase            | Non-SUGEN | SIMILAR TO MITOGEN-ACTIVA  | IPI00087148  |  |          |        |      | 2     |  |
| Kinase            | Non-SUGEN | SPFH1  | IPI00007940  |  |          |        | 5    | 5     |  |
| Kinase            | Non-SUGEN | SPFH2  | IPI00026942  |  | 7        |        |      | 12    |  |
| Kinase            | Non-SUGEN | TFG  | IPI00294619  |  | 3        |        |      |       |  |
| Kinase            | Other     | AAK1   | IPI00298977  | 385                                    | 212      | 345    | 252  | 2     |  |
| Kinase            | Other     | AurA   | IPI00298940  | 688                                    |          | 126    | 170  | 302   |  |
| Kinase            | Other     | AurB   | IPI00176642  | 174                                    |          | 148    | 135  | 98    |  |
| Kinase            | Other     | BIKE   | IPI00337426  | 77                                     | 35       | 94     | 345  | 434   |  |
| Kinase            | Other     | CaMKK1   | IPI00168909  | 62                                     |          | 18     | 2    |       |  |
| Kinase            | Other     | CaMKK2   | IPI00290239  | 79                                     | 36       | 111    | 93   | 155   |  |
| Kinase            | Other     | CK2a1  | IPI00016613  | 48                                     | 12       | 45     | 116  | 125   |  |
| Kinase            | Other     | CK2a2  | IPI00020602  | 93                                     | 102      | 68     | 188  | 194   |  |
| Kinase            | Other     | CLIK1L   | IPI00168098  |  |          | 2      | 5    | 1     |  |
| Kinase            | Other     | Fused  | IPI00235407  | 10                                     |          | 3      |      | 11    |  |
| Kinase            | Other     | GAK  | IPI00298949  | 1425                                   | 910      | 2596   | 1476 | 2318  |  |
| Kinase            | Other     | GCN2   | IPI00163851  | 102                                    | 20       | 345    | 99   | 27    |  |
| Kinase            | Other     | HRI  | IPI00328149  | 58                                     |          | 40     | 35   | 36    |  |
| Kinase            | Other     | IKKa   | IPI00005104  |  |          |        |      | 2     |  |
| Kinase            | Other     | IKKe   | IPI00029045  | 155                                    | 13       | 135    | 13   | 390   |  |
| Kinase            | Other     | MPSK1  | IPI00306833  | 21                                     | 12       | 10     | 23   | 18    |  |
| Kinase            | Other     | MYT1   | IPI00384765  | 58                                     |          | 67     | 142  | 74    |  |
| Kinase            | Other     | NEK1   | IPI00552585  | 19                                     |          | 18     | 1    | 48    |  |
| Kinase            | Other     | NEK2   | IPI00021331  | 81                                     |          | 67     | 108  | 57    |  |
| Kinase            | Other     | NEK6   | IPI00396662  | 6                                      |          |        | 5    |       |  |
| Kinase            | Other     | NEK7   | IPI00152658  |  | 10       |        | 1    | 1     |  |
| Kinase            | Other     | NEK9   | IPI00301609  | 1455                                   | 543      | 348    | 729  | 2279  |  |
| Kinase            | Other     | PIK3R4   | IPI00024006  | 13                                     |          | 2      |      | 7     |  |
| Kinase            | Other     | PLK1   | IPI00021248  | 8                                      |          |        |      | 15    |  |
| Kinase            | Other     | PLK4   | IPI00410344  | 38                                     |          | 22     | 27   | 45    |  |
| Kinase            | Other     | SqK223   | IPI00166578  |  |          | 2      | 1    | 338   |  |
| Kinase            | Other     | TBK1   | IPI00293613  | 1483                                   | 848      | 1823   | 1837 | 1809  |  |
| Kinase            | Other     | TTK  | IPI00151170  | 1                                      |          |        |      | 3     |  |
| Kinase            | Other     | ULK3   | IPI00411818  | 79                                     | 30       | 55     | 65   | 31    |  |
| Kinase            | Other     | Wee1   | IPI00025830  | 495                                    | 135      | 553    | 430  | 982   |  |
| Lipid Kinase      | -         | PIK3C2b  | IPI00292056  | 72                                     | 40       | 174    | 31   |       |  |
| Lipid Kinase      | -         | PIK3Cb   | IPI00031388  |  | 3        |        | 20   |       |  |
| Lipid Kinase      | -         | PIK3Cd   | IPI00298410  |  |          |        | 2    |       |  |
| Lipid Kinase      | -         | PIK3Cq   | IPI00292690  |  |          |        |      | 13    |  |
| Lipid Kinase      | -         | PIK4Ca   | IPI00070943  |  | 24       | 8      | 41   | 14    |  |
| Lipid Kinase      | -         | PIPSK2A  | IPI00009688  | 6                                      |          |        | 7    | 12    |  |
| Lipid Kinase      | -         | PIPSK2B  | IPI00216470  | 2                                      |          |        |      |       |  |
| Lipid Kinase      | -         | PIPSK2C  | IPI00152303  | 66                                     | 1        |        | 8    | 20    |  |
| Lipid Kinase      | -         | SIMILAR TO PHOSPHOINOSITIDE-3-KINASE, CLASS 2, AL                              | IPI00060352  |  | 1        |        |      |       |  |
| Sugar kinase      | -         | FRAT1  | IPI00023762  |  |          | 1      |      |       |  |
| Sugar kinase      | -         | HK1  | IPI00220665  |  | 7        | 1      | 3    |       |  |
| Sugar kinase      | -         | HK2  | IPI00102864  | 3                                      |          |        |      |       |  |
| Sugar kinase      | -         | HKDC1  | IPI00414612  | 11                                     |          |        |      |       |  |
| Sugar kinase      | -         | PFKL   | IPI00220617  | 13                                     | 22       | 12     | 19   | 14    |  |
| Sugar kinase      | -         | PFKM   | IPI00465179  | 7                                      |          |        | 4    | 1     |  |
| Sugar kinase      | -         | PFKP   | IPI00009790  | 36                                     |          | 39     | 24   | 17    |  |
| Nucleotide kinase | -         | AK2  | IPI000215901 |  |          |        | 11   | 3     |  |
| Nucleotide kinase | -         | CMPK   | IPI000219953 |  | 3        |        | 3    |       |  |
| Nucleotide kinase | -         | CDK  | IPI00020454  | 37                                     | 7        | 58     | 63   | 126   |  |
| Nucleotide kinase | -         | NME2   | IPI00604590  |  | 14       |        | 33   | 29    |  |
| Nucleotide kinase | -         | TK1  | IPI00299214  | 8                                      |          |        | 4    | 6     |  |
| Nucleotide kinase | -         | TK2  | IPI00337439  |  | 7        |        |      |       |  |
| Nucleotide kinase | -         | UCK2   | IPI00665671  | 2                                      |          | 3      | 1    |       |  |
| Other kinase      | -         | C21orf124  | IPI00013004  | 65                                     | 195      | 15     | 42   | 37    |  |
| Other kinase      | -         | NAGK   | IPI00296526  |  | 12       |        |      |       |  |
| Other kinase      | -         | PANK4  | IPI00018946  | 1                                      | 1        |        | 5    |       |  |
| Other kinase      | -         | PGK1   | IPI00169383  | 6                                      |          |        | 16   | 4     |  |
| Other kinase      | -         | TGM2   | IPI00294578  |  | 41       |        |      |       |  |
| Enzyme            | GTPase    | GBL  | IPI00657689  | 11                                     |          |        | 9    | 13    |  |
| Enzyme            | GTPase    | RAN  | IPI00643041  | 10                                     | 16       | 6      | 11   | 14    |  |
| Enzyme            | GTPase    | RHOA   | IPI00478231  |  | 10       |        | 6    | 4     |  |
| Enzyme            | GTPase    | RHOB   | IPI00000041  |  | 1        |        |      |       |  |
| Enzyme            | GTPase    | RHOG   | IPI00017342  |  | 3        |        |      |       |  |
| Enzyme            | GTPase    | RHOH   | IPI00018882  |  |          | 3      |      | 6     |  |
| Enzyme            | GTPase    | SIMILAR TO ADP-RIBOSYLATION FACTOR 4 (H. SAPIENS)                              | IPI00013078  |  |          | 1      |      |       |  |
| Enzyme            | Helicase  | ASCC3L1  | IPI00420014  | 11                                     |          | 6      | 10   | 5     |  |
| Enzyme            | Helicase  | BAT1   | IPI00328343  |  |          |        | 2    |       |  |
| Enzyme            | Helicase  | BTA1F1   | IPI00024802  | 7                                      |          |        |      |       |  |
| Enzyme            | Helicase  | CHD8   | IPI00719073  | 8                                      |          | 6      | 5    | 18    |  |
| Enzyme            | Helicase  | DDX1   | IPI00293655  | 7                                      |          | 3      | 7    | 3     |  |
| Enzyme            | Helicase  | DDX3Y  | IPI00215637  | 22                                     | 7        | 8      | 3    | 2     |  |
| Enzyme            | Helicase  | DDX5   | IPI00017617  | 19                                     |          | 13     | 5    | 13    |  |
| Enzyme            | Helicase  | DDX17  | IPI00651677  | 4                                      | 1        | 6      | 10   | 10    |  |
| Enzyme            | Helicase  | DDX20  | IPI00005904  | 11                                     |          |        | 3    | 10    |  |
| Enzyme            | Helicase  | DDX39  | IPI00644431  | 4                                      |          |        |      |       |  |
| Enzyme            | Helicase  | DDX46  | IPI00329791  | 3                                      |          |        |      | 2     |  |
| Enzyme            | Helicase  | DDX48  | IPI00009328  |  |          |        |      | 3     |  |
| Enzyme            | Helicase  | DHX9   | IPI00215638  |  |          |        |      | 1     |  |
| Enzyme            | Helicase  | DHX15  | IPI00177366  | 6                                      |          | 13     | 6    | 8     |  |
| Enzyme            | Helicase  | DHX32  | IPI00644447  |  | 3        |        |      |       |  |
| Enzyme            | Helicase  | DHX36  | IPI00027415  |  |          |        |      | 2     |  |
| Enzyme            | Helicase  | EIF4A1   | IPI00386604  | 3                                      |          | 1      | 12   |       |  |
| Enzyme            | Helicase  | EIF4A2   | IPI00409717  |  |          |        |      | 4     |  |
| Enzyme            | Helicase  | ERCC2  | IPI00029728  | 102                                    |          | 94     | 189  | 63    |  |
| Enzyme            | Helicase  | ERCC3  | IPI00291364  | 10                                     |          | 7      | 19   |       |  |

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| Protein family | Subfamily | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |    |
|----------------|-----------|--|--------------|--|----------|--------|------|-------|----|
|                |           |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |    |
| Enzyme         | Helicase  | G3BP   | IPI00012442  | 9                                      |          |        | 6    | 3     | 16 |
| Enzyme         | Helicase  | GTF2F2   | IPI00477686  | 5                                      |          |        |      |       |    |
| Enzyme         | Helicase  | LBA1   | IPI00307684  |  |          |        |      | 7     | 18 |
| Enzyme         | Helicase  | MOV10  | IPI00719207  |  |          | 1      |      |       |    |
| Enzyme         | Helicase  | RUVBL1   | IPI00021187  | 5                                      |          |        |      | 4     |    |
| Enzyme         | Helicase  | RUVBL2   | IPI00009104  | 3                                      |          |        |      |       |    |
| Enzyme         | Helicase  | SKIV2L2  | IPI00647217  |  |          |        |      |       | 8  |
| Enzyme         | Helicase  | SMARCA3  | IPI00339381  |  |          |        |      |       | 1  |
| Enzyme         | Helicase  | SMARCA4  | IPI00293426  |  |          |        |      |       | 4  |
| Enzyme         | Helicase  | XRCC5  | IPI00220834  | 11                                     | 3        | 10     |      | 20    | 7  |
| Enzyme         | Helicase  | XRCC6  | IPI00644712  | 5                                      | 5        | 6      |      |       |    |
| Enzyme         | Hydrolase | 37500  | IPI00014177  |  | 2        |        |      |       | 4  |
| Enzyme         | Hydrolase | 40057  | IPI00412206  |  | 5        |        |      |       | 4  |
| Enzyme         | Hydrolase | ABCE1  | IPI00303207  |  |          | 4      |      | 2     | 3  |
| Enzyme         | Hydrolase | ABHD3  | IPI00012409  |  |          |        |      |       | 2  |
| Enzyme         | Hydrolase | ABHD14B  | IPI00063827  |  | 5        | 2      |      | 2     | 3  |
| Enzyme         | Hydrolase | ACAD10   | IPI00418639  | 1                                      |          | 2      |      | 6     |    |
| Enzyme         | Hydrolase | ACIN1  | IPI00007334  | 1                                      |          |        |      |       |    |
| Enzyme         | Hydrolase | ACOT8  | IPI00298202  |  |          |        |      |       | 3  |
| Enzyme         | Hydrolase | ACP1   | IPI00218847  | 1                                      | 5        | 4      |      | 10    | 10 |
| Enzyme         | Hydrolase | ACY1L2   | IPI00217852  | 1                                      |          | 2      |      |       |    |
| Enzyme         | Hydrolase | ACY2   | IPI00216461  |  |          |        |      | 1     | 3  |
| Enzyme         | Hydrolase | ADAM12   | IPI00415037  |  | 41       |        |      |       |    |
| Enzyme         | Hydrolase | ADAM17   | IPI00288894  |  |          |        |      |       | 10 |
| Enzyme         | Hydrolase | ADAMTS14   | IPI00219598  |  |          |        |      |       | 1  |
| Enzyme         | Hydrolase | ADAMTSL4   | IPI00374068  |  |          | 3      |      |       |    |
| Enzyme         | Hydrolase | AFG3L2   | IPI000001091 | 6                                      |          |        | 6    | 6     | 8  |
| Enzyme         | Hydrolase | AHCY   | IPI00646823  | 2                                      |          |        |      | 9     | 12 |
| Enzyme         | Hydrolase | AHCYL1   | IPI00182938  | 5                                      | 1        |        |      |       | 2  |
| Enzyme         | Hydrolase | AICDA  | IPI00010186  |  |          |        |      |       | 3  |
| Enzyme         | Hydrolase | ALPP   | IPI00007289  | 8                                      | 26       |        |      |       |    |
| Enzyme         | Hydrolase | APEH   | IPI00337741  | 3                                      | 3        | 5      |      | 6     | 5  |
| Enzyme         | Hydrolase | APOBEC3C   | IPI00555878  |  |          |        |      | 4     | 4  |
| Enzyme         | Hydrolase | ARF4   | IPI00215918  |  | 10       |        |      | 3     |    |
| Enzyme         | Hydrolase | ARF5   | IPI00215919  |  | 1        |        |      |       |    |
| Enzyme         | Hydrolase | ARG1   | IPI00398768  |  |          | 2      |      |       |    |
| Enzyme         | Hydrolase | ARL8B  | IPI00018871  |  |          | 7      |      |       |    |
| Enzyme         | Hydrolase | ASAH1  | IPI00418446  |  |          |        |      |       | 12 |
| Enzyme         | Hydrolase | ATAD3B   | IPI00306048  | 8                                      | 6        | 24     |      | 7     | 37 |
| Enzyme         | Hydrolase | ATG4B  | IPI00554458  |  |          |        |      |       | 2  |
| Enzyme         | Hydrolase | ATP6   | IPI00552036  |  |          |        |      |       | 3  |
| Enzyme         | Hydrolase | BLMH   | IPI00219575  |  |          |        |      |       |    |
| Enzyme         | Hydrolase | C1orf57  | IPI00514501  |  |          |        | 3    |       |    |
| Enzyme         | Hydrolase | C17orf27   | IPI00470478  | 28                                     | 20       | 221    |      | 168   |    |
| Enzyme         | Hydrolase | CAPN1  | IPI00011285  |  |          | 7      | 2    | 6     |    |
| Enzyme         | Hydrolase | CAPN2  | IPI00289758  | 9                                      | 7        |        |      | 3     |    |
| Enzyme         | Hydrolase | CAPN6  | IPI00002547  |  |          | 26     |      |       |    |
| Enzyme         | Hydrolase | CAPNS1   | IPI00025084  | 2                                      | 3        |        |      | 5     |    |
| Enzyme         | Hydrolase | CASP2  | IPI00291570  | 2                                      |          |        |      |       | 1  |
| Enzyme         | Hydrolase | CASP3  | IPI00292140  |  |          |        | 1    | 1     | 1  |
| Enzyme         | Hydrolase | CASP14   | IPI00013885  | 4                                      | 1        | 1      |      |       | 16 |
| Enzyme         | Hydrolase | CCT8   | IPI00302925  | 11                                     | 6        | 7      | 7    | 7     | 10 |
| Enzyme         | Hydrolase | CDC42  | IPI00385447  |  | 3        | 1      |      | 4     | 7  |
| Enzyme         | Hydrolase | CDC91L1  | IPI00026044  |  |          |        | 3    |       | 4  |
| Enzyme         | Hydrolase | COG8   | IPI00007060  |  |          |        |      | 1     |    |
| Enzyme         | Hydrolase | CPD  | IPI00027078  |  |          |        |      |       | 4  |
| Enzyme         | Hydrolase | CTSB   | IPI00295741  |  |          | 5      |      | 3     | 2  |
| Enzyme         | Hydrolase | CTSC   | IPI00022810  |  |          |        |      |       | 3  |
| Enzyme         | Hydrolase | CTSD   | IPI00011229  | 11                                     | 26       |        |      | 7     | 3  |
| Enzyme         | Hydrolase | CTS2   | IPI00002745  |  |          | 4      |      | 5     |    |
| Enzyme         | Hydrolase | DCTD   | IPI00554705  |  |          |        |      | 3     |    |
| Enzyme         | Hydrolase | DFFA   | IPI00010882  |  |          |        |      | 1     |    |
| Enzyme         | Hydrolase | DLG1   | IPI00218729  |  |          | 3      |      |       |    |
| Enzyme         | Hydrolase | DNM1   | IPI00413140  |  |          | 1      |      |       |    |
| Enzyme         | Hydrolase | DNPEP  | IPI00015856  |  |          |        |      | 5     |    |
| Enzyme         | Hydrolase | DPP4   | IPI00018953  |  |          | 10     |      |       |    |
| Enzyme         | Hydrolase | DPYSL2   | IPI00106642  |  |          | 21     | 6    | 1     | 1  |
| Enzyme         | Hydrolase | DUSP3  | IPI00018671  |  |          |        |      |       |    |
| Enzyme         | Hydrolase | DUSP12   | IPI00009210  | 2                                      |          |        |      |       |    |
| Enzyme         | Hydrolase | EFTUD2   | IPI00003519  |  |          |        | 1    | 4     |    |
| Enzyme         | Hydrolase | EHD1   | IPI00017184  |  |          | 8      |      |       | 5  |
| Enzyme         | Hydrolase | EHD2   | IPI00100980  |  |          | 3      |      |       |    |
| Enzyme         | Hydrolase | EML1   | IPI00550611  |  |          | 4      |      |       |    |
| Enzyme         | Hydrolase | ENDOD1   | IPI00001952  |  |          | 2      |      |       |    |
| Enzyme         | Hydrolase | ERCC5  | IPI00477535  | 18                                     |          |        |      | 2     |    |
| Enzyme         | Hydrolase | EXOSC4   | IPI00218310  | 1                                      |          |        | 1    | 1     | 2  |
| Enzyme         | Hydrolase | FEN1   | IPI00026215  |  |          |        |      | 2     | 3  |
| Enzyme         | Hydrolase | FLJ11151   | IPI00305010  |  |          | 6      |      |       |    |
| Enzyme         | Hydrolase | FLJ25084   | IPI00102281  |  |          |        |      | 1     |    |
| Enzyme         | Hydrolase | FUCA1  | IPI00299026  |  |          | 2      |      |       |    |
| Enzyme         | Hydrolase | GAA  | IPI00293088  |  |          | 4      |      |       |    |
| Enzyme         | Hydrolase | GALC   | IPI00008790  |  |          | 1      |      | 42    |    |
| Enzyme         | Hydrolase | GANAB  | IPI00011454  | 14                                     | 19       | 12     |      | 19    | 2  |
| Enzyme         | Hydrolase | GBE1   | IPI00296635  | 4                                      |          |        |      |       |    |
| Enzyme         | Hydrolase | GCS1   | IPI00328170  |  |          | 9      |      |       |    |
| Enzyme         | Hydrolase | GDA  | IPI00465184  |  |          | 4      |      |       |    |
| Enzyme         | Hydrolase | GNA12  | IPI00328744  |  |          | 2      |      |       |    |
| Enzyme         | Hydrolase | GNA13  | IPI00290928  |  |          |        |      |       | 2  |
| Enzyme         | Hydrolase | GNAI2  | IPI00465121  |  |          | 5      |      |       | 12 |
| Enzyme         | Hydrolase | GNAI3  | IPI00220578  |  |          |        |      |       | 2  |
| Enzyme         | Hydrolase | HAGH   | IPI00003933  |  |          |        | 4    |       |    |
| Enzyme         | Hydrolase | HARS2  | IPI00152692  | 1                                      |          |        |      |       |    |
| Enzyme         | Hydrolase | HDHD3  | IPI00009931  |  |          |        | 3    |       |    |
| Enzyme         | Hydrolase | HEXB   | IPI00647065  |  |          | 3      |      | 2     |    |
| Enzyme         | Hydrolase | HIBCH  | IPI00419802  |  |          |        |      | 2     |    |
| Enzyme         | Hydrolase | HINT1  | IPI00239077  | 6                                      |          |        | 10   | 10    | 8  |
| Enzyme         | Hydrolase | HINT2  | IPI00000335  |  |          |        |      |       | 3  |
| Enzyme         | Hydrolase | HM13   | IPI00220687  |  |          |        |      |       | 1  |
| Enzyme         | Hydrolase | HP   | IPI00641737  |  |          | 6      |      |       |    |
| Enzyme         | Hydrolase | HPR  | IPI00607707  |  |          | 2      |      |       |    |
| Enzyme         | Hydrolase | HRSP12   | IPI00005038  |  |          |        |      | 1     |    |
| Enzyme         | Hydrolase | HTRA2  | IPI00001663  | 4                                      |          |        |      |       | 14 |
| Enzyme         | Hydrolase | INPP4A   | IPI00645392  |  |          |        | 6    |       |    |
| Enzyme         | Hydrolase | INPP5D   | IPI00329213  |  |          |        |      |       | 4  |
| Enzyme         | Hydrolase | INPPL1   | IPI00016932  |  |          |        |      | 265   |    |
| Enzyme         | Hydrolase | ISG20  | IPI00647246  |  |          |        |      |       | 14 |
| Enzyme         | Hydrolase | ITPA   | IPI00018783  |  |          |        | 3    |       |    |
| Enzyme         | Hydrolase | KATNA1   | IPI00013075  |  |          |        |      |       | 2  |
| Enzyme         | Hydrolase | KIAA0195   | IPI00431263  | 32                                     |          |        | 3    | 5     | 33 |
| Enzyme         | Hydrolase | KLKB1  | IPI00008558  |  |          | 1      |      |       |    |

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| Protein family | Subfamily | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|----------------|-----------|--|--------------|--|----------|--------|------|-------|
|                |           |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Enzyme         | Hydrolase | KYNU   | IPI00003818  | 1                                      |          |        |      |       |
| Enzyme         | Hydrolase | LGMN   | IPI00293303  |  | 4        |        |      |       |
| Enzyme         | Hydrolase | LNPEP  | IPI00307017  |  | 21       |        |      | 3     |
| Enzyme         | Hydrolase | LOC134147  | IPI00383046  | 10                                     |          |        | 19   |       |
| Enzyme         | Hydrolase | LOC221955  | IPI00385987  |  | 2        |        |      |       |
| Enzyme         | Hydrolase | LOC283871  | IPI00177008  | 2                                      |          |        |      |       |
| Enzyme         | Hydrolase | LOC285148  | IPI00419194  |  | 5        | 6      |      | 12    |
| Enzyme         | Hydrolase | LRAP   | IPI00465261  |  |          | 5      |      |       |
| Enzyme         | Hydrolase | LYPLA1   | IPI00007321  |  | 6        |        | 11   | 7     |
| Enzyme         | Hydrolase | LYPLA2   | IPI0027032   | 4                                      |          | 10     | 4    | 5     |
| Enzyme         | Hydrolase | LYZ  | IPI00019038  |  | 3        |        |      | 3     |
| Enzyme         | Hydrolase | MACF1  | IPI00432363  |  |          |        | 67   | 11    |
| Enzyme         | Hydrolase | MCM2   | IPI00184330  |  |          |        | 4    |       |
| Enzyme         | Hydrolase | MCM3   | IPI00013214  | 4                                      |          | 17     | 11   | 10    |
| Enzyme         | Hydrolase | MCM4   | IPI00018349  | 4                                      |          |        | 1    | 1     |
| Enzyme         | Hydrolase | MCM5   | IPI00018350  | 10                                     |          | 14     | 17   | 13    |
| Enzyme         | Hydrolase | MCM6   | IPI00031517  | 3                                      |          |        | 4    | 1     |
| Enzyme         | Hydrolase | MCM7   | IPI00299904  | 9                                      |          | 15     | 7    | 13    |
| Enzyme         | Hydrolase | MDN1   | IPI00167941  | 202                                    |          | 181    | 225  | 201   |
| Enzyme         | Hydrolase | MICROSOMAL SIGNAL PEPTIDASE 18 KDA SUBUNIT.                                    | IPI00104128  |  |          |        | 3    |       |
| Enzyme         | Hydrolase | MSH6   | IPI00384456  | 25                                     |          |        | 6    | 36    |
| Enzyme         | Hydrolase | NDUFS3   | IPI00174190  |  | 2        |        | 1    | 2     |
| Enzyme         | Hydrolase | NIT1   | IPI00456664  |  | 2        |        |      |       |
| Enzyme         | Hydrolase | NPEPPS   | IPI0026216   | 3                                      | 5        |        |      |       |
| Enzyme         | Hydrolase | NRD1   | IPI00243221  |  |          | 6      |      | 4     |
| Enzyme         | Hydrolase | NTSDC2   | IPI00009662  |  |          |        | 1    | 1     |
| Enzyme         | Hydrolase | NTE  | IPI00640818  |  |          | 12     |      |       |
| Enzyme         | Hydrolase | NUDT1  | IPI00004392  |  |          |        | 3    | 10    |
| Enzyme         | Hydrolase | NUDT14   | IPI00412878  | 40                                     | 46       | 15     | 10   | 4     |
| Enzyme         | Hydrolase | NUDT18   | IPI00217911  |  | 8        |        |      |       |
| Enzyme         | Hydrolase | OPA1   | IPI00107753  | 20                                     | 28       | 15     | 37   | 18    |
| Enzyme         | Hydrolase | OSGEP  | IPI00015809  |  |          |        |      | 2     |
| Enzyme         | Hydrolase | OTUB1  | IPI00000581  | 6                                      | 5        |        | 5    | 6     |
| Enzyme         | Hydrolase | OTUB1  | IPI00409750  |  | 2        |        |      |       |
| Enzyme         | Hydrolase | PAFAH1B2   | IPI00026546  |  | 1        |        |      |       |
| Enzyme         | Hydrolase | PAPPA  | IPI00001869  |  | 9        |        |      |       |
| Enzyme         | Hydrolase | PARG   | IPI00470743  |  |          |        | 5    | 1     |
| Enzyme         | Hydrolase | PGLS   | IPI00029997  | 4                                      | 5        | 5      |      | 6     |
| Enzyme         | Hydrolase | PGPEP1   | IPI00020539  |  |          |        | 1    |       |
| Enzyme         | Hydrolase | PHPT1  | IPI00299977  |  |          |        | 1    |       |
| Enzyme         | Hydrolase | PIGS   | IPI00465308  | 1                                      |          |        |      |       |
| Enzyme         | Hydrolase | PIGT   | IPI00100030  |  |          | 2      |      |       |
| Enzyme         | Hydrolase | PLCG2  | IPI00329185  |  |          |        |      | 33    |
| Enzyme         | Hydrolase | PLD3   | IPI00328243  |  | 6        |        |      |       |
| Enzyme         | Hydrolase | PLGLB1   | IPI00019580  |  | 32       |        |      |       |
| Enzyme         | Hydrolase | PMPCA  | IPI00166749  | 1                                      |          |        | 1    |       |
| Enzyme         | Hydrolase | PMPCB  | IPI00289535  |  |          |        | 3    |       |
| Enzyme         | Hydrolase | POLD1  | IPI00655631  |  |          | 3      |      | 4     |
| Enzyme         | Hydrolase | PPA1   | IPI00015018  | 1                                      |          |        | 3    | 3     |
| Enzyme         | Hydrolase | PPM1G  | IPI00006167  | 3                                      |          | 2      |      | 1     |
| Enzyme         | Hydrolase | PPP1CA   | IPI00027423  |  |          |        | 3    | 7     |
| Enzyme         | Hydrolase | PPP1CB   | IPI00218236  |  | 11       |        | 3    | 3     |
| Enzyme         | Hydrolase | PPP1CC   | IPI00218187  | 4                                      |          |        |      | 8     |
| Enzyme         | Hydrolase | PPP2CA   | IPI00008380  | 7                                      | 7        | 5      | 8    | 27    |
| Enzyme         | Hydrolase | PPP3CB   | IPI00027809  |  |          | 4      |      | 7     |
| Enzyme         | Hydrolase | PPP5C  | IPI00019812  |  |          | 4      |      |       |
| Enzyme         | Hydrolase | PPP6C  | IPI00012970  | 9                                      | 1        | 7      | 5    | 16    |
| Enzyme         | Hydrolase | PPT1   | IPI00002412  |  | 3        | 2      | 5    | 1     |
| Enzyme         | Hydrolase | PRKAB1   | IPI00220409  | 68                                     | 88       | 168    | 143  | 123   |
| Enzyme         | Hydrolase | PROTEASOME BETA 2 SUBUNIT VARIANT (FRAGMENT).                                  | IPI00555590  |  | 1        |        |      |       |
| Enzyme         | Hydrolase | PRSS15   | IPI00005158  |  |          |        | 5    |       |
| Enzyme         | Hydrolase | PSARL  | IPI00060545  | 1                                      | 1        |        |      | 2     |
| Enzyme         | Hydrolase | PSMA1  | IPI00472442  | 4                                      |          | 2      | 3    |       |
| Enzyme         | Hydrolase | PSMA2  | IPI00219622  |  |          |        |      | 3     |
| Enzyme         | Hydrolase | PSMA3  | IPI00419249  |  | 2        | 1      |      |       |
| Enzyme         | Hydrolase | PSMA4  | IPI00639869  | 3                                      |          | 3      | 5    |       |
| Enzyme         | Hydrolase | PSMA5  | IPI00291922  | 3                                      | 7        | 3      | 3    | 6     |
| Enzyme         | Hydrolase | PSMA6  | IPI00029623  | 3                                      |          | 5      | 4    | 2     |
| Enzyme         | Hydrolase | PSMA7  | IPI00024175  | 4                                      | 4        | 7      | 7    | 2     |
| Enzyme         | Hydrolase | PSMB1  | IPI00025019  |  |          |        | 8    | 3     |
| Enzyme         | Hydrolase | PSMB2  | IPI00028006  |  |          | 5      | 5    | 8     |
| Enzyme         | Hydrolase | PSMB3  | IPI00028004  |  |          |        | 4    |       |
| Enzyme         | Hydrolase | PSMB4  | IPI00555956  |  | 1        | 2      |      | 3     |
| Enzyme         | Hydrolase | PSMB5  | IPI00375704  |  | 2        | 1      | 10   | 2     |
| Enzyme         | Hydrolase | PSMB5  | IPI00383971  | 1                                      |          |        |      |       |
| Enzyme         | Hydrolase | PSMB6  | IPI00000811  |  | 2        | 1      | 1    | 2     |
| Enzyme         | Hydrolase | PSMB7  | IPI00003217  | 2                                      |          | 1      |      |       |
| Enzyme         | Hydrolase | PSMB8  | IPI00000783  |  |          |        | 1    | 4     |
| Enzyme         | Hydrolase | PSMB9  | IPI00000787  |  | 1        |        |      |       |
| Enzyme         | Hydrolase | PSMC1  | IPI00011126  | 3                                      |          |        |      |       |
| Enzyme         | Hydrolase | PSMC2  | IPI00021435  |  | 1        |        | 3    |       |
| Enzyme         | Hydrolase | PSMC4  | IPI00020042  | 2                                      |          |        |      |       |
| Enzyme         | Hydrolase | PSMC6  | IPI00021926  |  |          |        |      | 5     |
| Enzyme         | Hydrolase | PSMD6  | IPI00655672  |  |          |        |      | 3     |
| Enzyme         | Hydrolase | PTER   | IPI00100933  | 5                                      | 3        |        | 3    |       |
| Enzyme         | Hydrolase | PTPN11   | IPI00658023  |  |          |        | 2    |       |
| Enzyme         | Hydrolase | PTPN12   | IPI00289082  |  | 1        |        |      |       |
| Enzyme         | Hydrolase | PTPN18   | IPI00219132  |  |          | 2      | 4    | 15    |
| Enzyme         | Hydrolase | QPCT   | IPI00003919  |  |          |        |      | 11    |
| Enzyme         | Hydrolase | RAB3B  | IPI00300562  |  | 6        |        |      |       |
| Enzyme         | Hydrolase | RAB3D  | IPI00032808  |  | 2        |        |      |       |
| Enzyme         | Hydrolase | RAB4B  | IPI00187143  |  | 2        |        |      |       |
| Enzyme         | Hydrolase | RAB5A  | IPI00023510  |  | 3        |        |      |       |
| Enzyme         | Hydrolase | RAB5C  | IPI00016339  | 3                                      | 8        | 4      | 6    | 2     |
| Enzyme         | Hydrolase | RAB6A  | IPI00217943  |  | 7        | 2      |      |       |
| Enzyme         | Hydrolase | RAB7   | IPI00016342  |  | 3        |        |      |       |
| Enzyme         | Hydrolase | RAB11B   | IPI00020436  |  |          |        | 3    | 2     |
| Enzyme         | Hydrolase | RAB14  | IPI00291928  |  | 10       | 10     | 6    | 13    |
| Enzyme         | Hydrolase | RAB18  | IPI00556060  |  | 4        | 3      |      | 8     |
| Enzyme         | Hydrolase | RAB27A   | IPI00016381  |  |          |        | 5    |       |
| Enzyme         | Hydrolase | RAB38  | IPI00027981  |  | 1        |        |      |       |
| Enzyme         | Hydrolase | RAC1   | IPI00555566  |  | 14       |        |      |       |
| Enzyme         | Hydrolase | RAC2   | IPI00010270  |  |          | 8      |      |       |
| Enzyme         | Hydrolase | RAD50  | IPI00549205  | 7                                      |          | 5      |      | 14    |
| Enzyme         | Hydrolase | RBBP4  | IPI00328319  | 3                                      |          |        | 4    |       |
| Enzyme         | Hydrolase | RCE1   | IPI00031755  |  |          | 1      |      | 2     |
| Enzyme         | Hydrolase | RFC2   | IPI00017412  |  |          |        |      | 2     |
| Enzyme         | Hydrolase | RFC3   | IPI00031521  | 4                                      | 1        |        |      |       |
| Enzyme         | Hydrolase | RFC4   | IPI00017381  |  |          |        |      | 4     |
| Enzyme         | Hydrolase | RIF1   | IPI00477805  |  |          |        |      | 22    |

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| Protein family | Subfamily | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|----------------|-----------|--|--------------|--|----------|--------|------|-------|
|                |           |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Enzyme         | Hydrolase | RNASET2  | IPI00299103  |  |          |        | 2    |       |
| Enzyme         | Hydrolase | RNGT1  | IPI00000104  | 1                                      |          |        |      |       |
| Enzyme         | Hydrolase | RNPEP  | IPI00642211  |  |          |        | 4    |       |
| Enzyme         | Hydrolase | RP11-125A7_3   | IPI00158296  | 4                                      |          | 6      |      | 7     |
| Enzyme         | Hydrolase | RRAS   | IPI00020418  |  | 1        |        |      |       |
| Enzyme         | Hydrolase | SAR1A  | IPI00015954  |  |          |        |      | 3     |
| Enzyme         | Hydrolase | SEC11L1  | IPI00385214  |  | 7        | 3      |      | 4     |
| Enzyme         | Hydrolase | SEC11L3  | IPI00219436  |  |          |        |      | 5     |
| Enzyme         | Hydrolase | SGPP1  | IPI00306840  |  |          |        |      | 1     |
| Enzyme         | Hydrolase | SIRT3  | IPI00183171  | 7                                      | 2        | 2      | 3    | 2     |
| Enzyme         | Hydrolase | SPCS2  | IPI00472939  | 1                                      | 8        | 3      | 4    | 6     |
| Enzyme         | Hydrolase | SPCS3  | IPI00300299  |  | 4        |        |      | 3     |
| Enzyme         | Hydrolase | ST14   | IPI00001922  |  | 4        |        |      | 7     |
| Enzyme         | Hydrolase | STS  | IPI00307433  |  | 5        |        |      |       |
| Enzyme         | Hydrolase | TA-PP2C  | IPI00169326  |  |          |        |      | 1     |
| Enzyme         | Hydrolase | TGM3   | IPI00300376  |  |          |        | 3    |       |
| Enzyme         | Hydrolase | THEM2  | IPI00020530  |  |          |        | 1    | 1     |
| Enzyme         | Hydrolase | THOP1  | IPI00549189  | 3                                      |          |        |      |       |
| Enzyme         | Hydrolase | TIMM50   | IPI00418497  | 14                                     | 3        | 7      | 9    | 14    |
| Enzyme         | Hydrolase | TNS3   | IPI00658152  | 19                                     | 10       |        |      |       |
| Enzyme         | Hydrolase | TPP1   | IPI00298237  |  |          |        | 1    |       |
| Enzyme         | Hydrolase | TPP2   | IPI00640197  |  |          | 4      |      | 11    |
| Enzyme         | Hydrolase | TYSND1   | IPI00303214  |  |          |        |      | 4     |
| Enzyme         | Hydrolase | UCHL3  | IPI00011250  |  |          |        |      | 7     |
| Enzyme         | Hydrolase | USP5   | IPI00024664  | 3                                      |          |        | 4    | 4     |
| Enzyme         | Hydrolase | USP7   | IPI00003965  |  |          |        |      |       |
| Enzyme         | Hydrolase | USP9X  | IPI00221012  | 14                                     | 17       | 6      | 40   | 14    |
| Enzyme         | Hydrolase | USP11  | IPI00184533  |  |          | 6      |      |       |
| Enzyme         | Hydrolase | USP15  | IPI00000728  |  |          |        | 4    |       |
| Enzyme         | Hydrolase | USP22  | IPI00010365  |  |          | 5      |      | 4     |
| Enzyme         | Hydrolase | USP24  | IPI00398505  |  |          | 6      | 35   | 6     |
| Enzyme         | Hydrolase | USP34  | IPI00297593  | 3                                      |          | 8      | 5    | 63    |
| Enzyme         | Hydrolase | XRN2   | IPI00100151  |  |          | 1      |      |       |
| Enzyme         | Hydrolase | YME1L1   | IPI00045946  |  |          |        |      | 5     |
| Enzyme         | Isomerase | BPGM   | IPI00215979  |  | 8        |        |      |       |
| Enzyme         | Isomerase | DCI  | IPI00300567  |  | 2        |        | 5    |       |
| Enzyme         | Isomerase | DHRS9  | IPI00024782  |  |          |        | 2    |       |
| Enzyme         | Isomerase | ECH1   | IPI00011416  | 19                                     | 10       | 3      | 1    |       |
| Enzyme         | Isomerase | ERP29  | IPI00024911  | 3                                      | 7        |        | 4    | 2     |
| Enzyme         | Isomerase | FKBP2  | IPI00002535  |  | 2        |        |      | 1     |
| Enzyme         | Isomerase | FKBP4  | IPI00219005  | 4                                      |          |        | 3    |       |
| Enzyme         | Isomerase | FKBP11   | IPI00009885  |  |          |        |      | 7     |
| Enzyme         | Isomerase | HSD3B2   | IPI00246994  |  | 24       |        |      |       |
| Enzyme         | Isomerase | ID1  | IPI00220014  | 1                                      |          |        |      | 2     |
| Enzyme         | Isomerase | ISYNA1   | IPI00549569  |  | 9        |        |      |       |
| Enzyme         | Isomerase | ITPK1  | IPI00296589  | 3                                      |          |        |      |       |
| Enzyme         | Isomerase | KIAA0674   | IPI00401282  |  |          |        |      | 2     |
| Enzyme         | Isomerase | LSS  | IPI00009747  | 5                                      |          |        |      |       |
| Enzyme         | Isomerase | MUTED  | IPI00171438  | 1                                      |          |        | 4    | 5     |
| Enzyme         | Isomerase | P4HB   | IPI00550984  | 7                                      | 28       |        | 4    |       |
| Enzyme         | Isomerase | PDIA3  | IPI00025252  | 4                                      | 37       | 1      | 5    | 1     |
| Enzyme         | Isomerase | PDIA4  | IPI00009904  | 17                                     | 8        |        | 1    | 1     |
| Enzyme         | Isomerase | PDIA5  | IPI00031479  | 3                                      | 2        |        |      |       |
| Enzyme         | Isomerase | PDIA6  | IPI00299571  | 3                                      |          |        | 8    |       |
| Enzyme         | Isomerase | PECI   | IPI00639841  | 6                                      |          |        |      |       |
| Enzyme         | Isomerase | PGAM1  | IPI00549725  | 4                                      | 10       |        | 4    | 7     |
| Enzyme         | Isomerase | PGM1   | IPI00217872  | 2                                      | 6        |        |      |       |
| Enzyme         | Isomerase | PGM3   | IPI00030116  |  |          |        | 5    | 9     |
| Enzyme         | Isomerase | PIN1   | IPI00013723  |  |          |        | 2    |       |
| Enzyme         | Isomerase | PIN4   | IPI00006658  | 6                                      |          | 5      | 3    |       |
| Enzyme         | Isomerase | PPIA   | IPI00480133  | 8                                      | 32       | 24     | 53   | 56    |
| Enzyme         | Isomerase | PPIB   | IPI00646304  | 4                                      | 41       | 9      | 13   | 17    |
| Enzyme         | Isomerase | PPIF   | IPI00026519  |  |          |        | 2    | 2     |
| Enzyme         | Isomerase | PPIH   | IPI00007346  |  |          |        | 3    | 4     |
| Enzyme         | Isomerase | PPIL1  | IPI00007019  |  |          |        | 6    | 2     |
| Enzyme         | Isomerase | PPIL3  | IPI00032473  |  |          |        | 1    | 1     |
| Enzyme         | Isomerase | PTGES  | IPI00297858  | 1                                      | 2        |        |      |       |
| Enzyme         | Isomerase | PTGES3   | IPI00015029  |  | 4        | 2      | 7    | 3     |
| Enzyme         | Isomerase | RPIA   | IPI00026513  |  |          |        |      | 2     |
| Enzyme         | Isomerase | SIMILAR TO MYO-INOSITOL 1-PHOSPHATE SYNTHASE A1.                               | IPI00145386  |  |          |        | 1    |       |
| Enzyme         | Isomerase | SRR  | IPI00030328  |  |          |        | 1    |       |
| Enzyme         | Isomerase | TP11   | IPI00465028  | 23                                     | 32       | 4      | 17   | 18    |
| Enzyme         | Ligase    | 37316  | IPI00062839  |  |          |        |      | 3     |
| Enzyme         | Ligase    | AARS   | IPI00027442  |  |          |        | 10   |       |
| Enzyme         | Ligase    | ACACA  | IPI00396015  | 26                                     |          | 16     | 15   | 32    |
| Enzyme         | Ligase    | ACSL3  | IPI00031397  | 3                                      | 7        |        | 5    |       |
| Enzyme         | Ligase    | ACSM3  | IPI00297635  |  |          |        | 9    |       |
| Enzyme         | Ligase    | ACSS2  | IPI00549564  | 6                                      |          |        |      |       |
| Enzyme         | Ligase    | ANAPC2   | IPI00002549  | 12                                     |          | 15     | 3    | 7     |
| Enzyme         | Ligase    | ANAPC4   | IPI00002551  | 19                                     |          | 17     | 16   | 10    |
| Enzyme         | Ligase    | ANAPC5   | IPI00008247  | 51                                     |          | 25     | 16   | 33    |
| Enzyme         | Ligase    | ANAPC10  | IPI00007088  |  |          | 8      | 9    | 13    |
| Enzyme         | Ligase    | ANAPC11  | IPI00401969  |  |          |        |      | 2     |
| Enzyme         | Ligase    | APBP1  | IPI00646350  |  | 1        |        |      |       |
| Enzyme         | Ligase    | ASNS   | IPI00554777  |  |          |        | 2    | 18    |
| Enzyme         | Ligase    | C20orf129  | IPI00480103  | 3                                      |          | 3      |      | 4     |
| Enzyme         | Ligase    | CARS   | IPI00027443  |  |          |        | 6    | 3     |
| Enzyme         | Ligase    | CBLB   | IPI00292856  |  |          |        | 6    |       |
| Enzyme         | Ligase    | CDC23  | IPI00005822  | 24                                     |          | 28     | 26   | 26    |
| Enzyme         | Ligase    | CTPS   | IPI00290142  | 12                                     |          | 22     | 3    | 13    |
| Enzyme         | Ligase    | CTPS2  | IPI00514016  | 3                                      |          |        |      |       |
| Enzyme         | Ligase    | DARS   | IPI00216951  | 13                                     |          | 10     | 9    | 7     |
| Enzyme         | Ligase    | EDD1   | IPI00026320  |  |          |        | 4    | 58    |
| Enzyme         | Ligase    | ELOVL5   | IPI00556024  | 4                                      |          |        | 4    | 3     |
| Enzyme         | Ligase    | EPRS   | IPI00013452  | 111                                    | 4        | 32     | 52   | 50    |
| Enzyme         | Ligase    | FARSLA   | IPI00031820  | 1                                      | 3        | 11     | 7    | 9     |
| Enzyme         | Ligase    | FARSLB   | IPI00300074  |  | 4        |        | 6    | 15    |
| Enzyme         | Ligase    | FBXO2  | IPI00479583  | 1                                      |          |        |      |       |
| Enzyme         | Ligase    | FBXW11   | IPI00328796  | 1                                      |          |        |      | 4     |
| Enzyme         | Ligase    | GARS   | IPI00465260  | 12                                     |          |        | 11   | 19    |
| Enzyme         | Ligase    | GCLM   | IPI00010090  | 5                                      | 2        |        |      | 1     |
| Enzyme         | Ligase    | HECTD3   | IPI00456642  |  |          |        |      | 1     |
| Enzyme         | Ligase    | HIP2   | IPI00021370  |  |          |        | 1    |       |
| Enzyme         | Ligase    | HUWE1  | IPI00456919  | 35                                     | 4        | 22     | 7    | 29    |
| Enzyme         | Ligase    | IARS   | IPI00644127  | 30                                     | 3        | 17     | 28   | 39    |
| Enzyme         | Ligase    | KARS   | IPI00307092  | 16                                     |          | 17     | 2    |       |
| Enzyme         | Ligase    | LARS   | IPI00103994  | 13                                     |          | 6      | 21   | 13    |
| Enzyme         | Ligase    | LARS2  | IPI00014213  |  |          |        | 1    |       |
| Enzyme         | Ligase    | LOC197322  | IPI00166395  |  |          | 8      |      | 9     |
| Enzyme         | Ligase    | LOC343515  | IPI00457304  |  |          |        |      | 1     |

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| Protein family | Subfamily       | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|----------------|-----------------|--|--------------|--|----------|--------|------|-------|
|                |                 |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Enzyme         | Ligase          | MARS   | IPI0008240   | 14                                     | 2        | 21     | 20   | 22    |
| Enzyme         | Ligase          | MCCC2  | IPI00412253  | 2                                      |          | 2      | 14   | 8     |
| Enzyme         | Ligase          | MTHFD1L  | IPI00291646  |  |          | 6      | 3    |       |
| Enzyme         | Ligase          | MYCBP2   | IPI00289776  | 6                                      |          | 12     |      | 19    |
| Enzyme         | Ligase          | NADSYN1  | IPI00306689  | 1                                      |          |        |      |       |
| Enzyme         | Ligase          | NARS   | IPI00306960  |  |          |        |      | 4     |
| Enzyme         | Ligase          | PARS2  | IPI00553006  |  |          |        | 4    |       |
| Enzyme         | Ligase          | PPIL2  | IPI00217324  |  |          |        |      | 8     |
| Enzyme         | Ligase          | PRPS1  | IPI00719564  | 3                                      |          |        |      | 4     |
| Enzyme         | Ligase          | PRPS2  | IPI00718888  | 1                                      |          |        |      |       |
| Enzyme         | Ligase          | QARS   | IPI00266665  | 19                                     | 6        | 3      | 15   | 12    |
| Enzyme         | Ligase          | RARS   | IPI0004860   | 10                                     | 2        |        | 4    | 2     |
| Enzyme         | Ligase          | RARSL  | IPI00549566  |  |          |        |      | 3     |
| Enzyme         | Ligase          | RBAF600  | IPI00643014  | 24                                     |          | 16     | 76   | 22    |
| Enzyme         | Ligase          | RNF5   | IPI00012608  |  |          | 2      | 2    | 2     |
| Enzyme         | Ligase          | SLC27A4  | IPI00412147  |  |          | 4      |      |       |
| Enzyme         | Ligase          | SUCLG1   | IPI00295625  | 1                                      | 2        |        | 2    | 2     |
| Enzyme         | Ligase          | SUCLG2   | IPI00096066  |  |          |        | 3    |       |
| Enzyme         | Ligase          | TARS   | IPI00329633  | 11                                     |          |        | 12   |       |
| Enzyme         | Ligase          | TARSL1   | IPI00604527  | 7                                      |          |        |      |       |
| Enzyme         | Ligase          | TRAF7  | IPI00395631  | 76                                     | 14       | 18     | 10   | 21    |
| Enzyme         | Ligase          | UBE1   | IPI00645078  |  | 3        | 8      | 3    |       |
| Enzyme         | Ligase          | UBE2C  | IPI00013002  |  |          |        |      | 1     |
| Enzyme         | Ligase          | UBE2G2   | IPI00010142  |  |          |        | 2    | 1     |
| Enzyme         | Ligase          | UBE2I  | IPI00450472  |  |          |        | 3    |       |
| Enzyme         | Ligase          | UBE2J1   | IPI00477999  |  |          |        |      | 3     |
| Enzyme         | Ligase          | UBE2L3   | IPI00655957  |  |          |        | 11   | 21    |
| Enzyme         | Ligase          | UBE2L6   | IPI00329563  |  | 10       | 10     | 11   | 21    |
| Enzyme         | Ligase          | UBE2M  | IPI00022597  |  |          |        | 4    | 3     |
| Enzyme         | Ligase          | UBE2N  | IPI00003949  |  | 1        |        | 6    | 4     |
| Enzyme         | Ligase          | UBE2NL   | IPI00376844  | 1                                      | 1        | 2      |      | 3     |
| Enzyme         | Ligase          | UBE2O  | IPI00028307  | 9                                      |          |        |      | 4     |
| Enzyme         | Ligase          | UBE2Z  | IPI00011996  |  | 2        |        |      |       |
| Enzyme         | Ligase          | UBE3A  | IPI00011609  |  |          | 5      |      | 1     |
| Enzyme         | Ligase          | UBE4A  | IPI00028957  |  |          | 1      |      | 2     |
| Enzyme         | Ligase          | UBR1   | IPI00217405  | 4                                      |          | 2      |      |       |
| Enzyme         | Ligase          | UBR2   | IPI00217407  | 3                                      |          | 9      |      |       |
| Enzyme         | Ligase          | UCHL1  | IPI00018352  |  |          |        |      | 8     |
| Enzyme         | Ligase          | VAR5   | IPI00000873  | 9                                      |          |        | 13   | 15    |
| Enzyme         | Ligase          | WARS   | IPI00295400  |  | 2        |        |      |       |
| Enzyme         | Lyase           | ACO2   | IPI00017855  |  |          |        | 5    |       |
| Enzyme         | Lyase           | ALAD   | IPI00442121  |  | 2        |        |      |       |
| Enzyme         | Lyase           | ALDOA  | IPI00465439  | 9                                      | 9        | 6      | 17   | 13    |
| Enzyme         | Lyase           | C17orf25   | IPI00032575  |  | 6        | 1      | 2    | 2     |
| Enzyme         | Lyase           | CA1  | IPI00215963  |  | 9        |        |      |       |
| Enzyme         | Lyase           | CA2  | IPI00218414  |  | 2        |        |      |       |
| Enzyme         | Lyase           | CBS  | IPI00219649  |  |          | 1      | 7    | 13    |
| Enzyme         | Lyase           | CTH  | IPI00031557  |  |          |        | 1    | 1     |
| Enzyme         | Lyase           | ECHS1  | IPI00024993  | 3                                      |          |        | 3    | 11    |
| Enzyme         | Lyase           | ENO1   | IPI00465248  | 18                                     | 4        |        | 31   |       |
| Enzyme         | Lyase           | FASN   | IPI00026781  | 105                                    | 18       | 36     | 91   | 143   |
| Enzyme         | Lyase           | FECH   | IPI00554589  | 81                                     | 15       | 118    | 297  | 49    |
| Enzyme         | Lyase           | FH   | IPI00296053  |  |          |        | 5    |       |
| Enzyme         | Lyase           | GMDS   | IPI00030207  |  | 7        | 5      | 2    | 8     |
| Enzyme         | Lyase           | HADHA  | IPI00031522  | 20                                     | 11       | 5      | 16   | 12    |
| Enzyme         | Lyase           | HADHB  | IPI00022793  | 4                                      | 2        |        | 12   |       |
| Enzyme         | Lyase           | HCCS   | IPI00023406  | 11                                     |          | 5      | 6    | 7     |
| Enzyme         | Lyase           | HMGCL  | IPI00293564  |  | 5        |        | 3    | 2     |
| Enzyme         | Lyase           | KIDINS220  | IPI00033429  | 3                                      |          |        |      | 6     |
| Enzyme         | Lyase           | LTC4S  | IPI00004509  |  | 8        |        |      |       |
| Enzyme         | Motor - dynein  | DYNC1H1  | IPI00477531  | 155                                    | 188      | 152    | 361  | 253   |
| Enzyme         | Motor - dynein  | DYNC1I2  | IPI00302712  | 2                                      |          |        | 3    | 2     |
| Enzyme         | Motor - dynein  | DYNLL2   | IPI00019329  | 23                                     | 16       | 3      | 25   | 64    |
| Enzyme         | Motor - dynein  | DYNLRB1  | IPI00412497  |  |          |        | 1    |       |
| Enzyme         | Motor - dynein  | DYNLRB2  | IPI00178188  |  |          |        |      | 1     |
| Enzyme         | Motor - dynein  | DYNLT1   | IPI00019495  |  |          |        | 2    |       |
| Enzyme         | Motor - dynein  | DYNLT3   | IPI00639982  | 2                                      | 2        |        | 2    | 1     |
| Enzyme         | Motor - kinesin | KIF2C  | IPI00290435  | 1                                      |          | 5      | 6    | 5     |
| Enzyme         | Motor - kinesin | KIF4A  | IPI00178150  | 2                                      |          |        |      | 6     |
| Enzyme         | Motor - kinesin | KIF5B  | IPI00012837  |  | 10       | 4      | 4    |       |
| Enzyme         | Motor - kinesin | KIF21A   | IPI00425409  | 1                                      |          |        |      |       |
| Enzyme         | Motor - kinesin | KIFC1  | IPI00306400  |  |          |        |      | 1     |
| Enzyme         | Motor - myosin  | MYL4   | IPI00386712  |  |          |        | 1    |       |
| Enzyme         | Motor - myosin  | MYL6   | IPI00473069  | 6                                      | 6        | 8      | 2    | 9     |
| Enzyme         | Motor - myosin  | MYL9   | IPI00220278  |  | 3        |        |      |       |
| Enzyme         | Motor - myosin  | MYO9B  | IPI00336047  |  |          |        |      | 7     |
| Enzyme         | Motor - myosin  | MYO15B   | IPI00306532  |  |          |        |      | 3     |
| Enzyme         | Motor - myosin  | SIMILAR TO MYOSIN REGULATORY LIGHT CHAIN-LIKE                                  | IPI0087597   |  |          | 2      |      |       |
| Enzyme         | Motor - other   | CENPE  | IPI00296365  |  |          |        |      | 7     |
| Enzyme         | Motor - other   | SMC1L1   | IPI00291939  |  |          | 1      |      | 3     |
| Enzyme         | Oxydoreductase  | ACAD8  | IPI00446874  |  |          |        | 3    | 1     |
| Enzyme         | Oxydoreductase  | ACAD9  | IPI00152981  |  |          |        |      | 3     |
| Enzyme         | Oxydoreductase  | ACADS  | IPI00027701  |  | 1        |        |      |       |
| Enzyme         | Oxydoreductase  | ACADVL   | IPI00028031  | 5                                      | 19       |        |      |       |
| Enzyme         | Oxydoreductase  | ACOX1  | IPI00296907  |  |          |        | 7    |       |
| Enzyme         | Oxydoreductase  | ACOX3  | IPI00020226  | 81                                     | 425      | 166    | 132  | 41    |
| Enzyme         | Oxydoreductase  | AKR1B1   | IPI00413641  |  | 12       |        |      | 4     |
| Enzyme         | Oxydoreductase  | AKR1C3   | IPI00641279  | 1                                      |          |        |      |       |
| Enzyme         | Oxydoreductase  | ALDH2  | IPI00006663  |  |          |        | 5    |       |
| Enzyme         | Oxydoreductase  | ALDH3A2  | IPI00394758  | 9                                      |          |        |      |       |
| Enzyme         | Oxydoreductase  | ALDH7A1  | IPI00221234  |  | 2        |        |      |       |
| Enzyme         | Oxydoreductase  | ALDH18A1   | IPI00008982  |  |          |        | 5    | 9     |
| Enzyme         | Oxydoreductase  | AOC3   | IPI00004457  |  | 5        |        |      |       |
| Enzyme         | Oxydoreductase  | BDH1   | IPI00025341  |  |          | 5      |      | 9     |
| Enzyme         | Oxydoreductase  | BLVRB  | IPI00219910  |  | 10       |        | 8    |       |
| Enzyme         | Oxydoreductase  | CBR1   | IPI00295386  | 7                                      | 11       |        | 3    |       |
| Enzyme         | Oxydoreductase  | CBR4   | IPI00384297  |  |          |        |      | 2     |
| Enzyme         | Oxydoreductase  | CPOX   | IPI00093057  |  | 18       |        | 5    | 1     |
| Enzyme         | Oxydoreductase  | CYB5R1   | IPI00470674  |  | 11       |        |      |       |
| Enzyme         | Oxydoreductase  | CYB5R3   | IPI00328415  |  | 1        |        |      |       |
| Enzyme         | Oxydoreductase  | CYCS   | IPI00465315  | 4                                      |          |        |      |       |
| Enzyme         | Oxydoreductase  | CYP2J2   | IPI00019411  |  | 2        |        |      |       |
| Enzyme         | Oxydoreductase  | CYP11A1  | IPI00295771  |  | 43       |        |      |       |
| Enzyme         | Oxydoreductase  | CYP19A1  | IPI00465065  |  | 21       |        |      |       |
| Enzyme         | Oxydoreductase  | CYTOCHROME C.  | IPI00465315  |  | 2        |        | 8    | 1     |
| Enzyme         | Oxydoreductase  | DCXR   | IPI00448095  |  |          | 4      | 1    | 6     |
| Enzyme         | Oxydoreductase  | DECR1  | IPI00003482  |  |          | 1      | 5    | 4     |
| Enzyme         | Oxydoreductase  | DECR2  | IPI00010190  |  |          | 7      |      |       |
| Enzyme         | Oxydoreductase  | DHCR7  | IPI00294501  | 37                                     | 2        | 8      | 5    | 26    |
| Enzyme         | Oxydoreductase  | DHRS1  | IPI0065063   | 1                                      |          |        |      |       |

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| Protein family | Subfamily      | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|----------------|----------------|--|--------------|--|----------|--------|------|-------|
|                |                |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Enzyme         | Oxydoreductase | DHRS2  | IPI00376377  |  |          | 3      |      |       |
| Enzyme         | Oxydoreductase | DHRS7B   | IPI00550165  |  |          | 1      |      |       |
| Enzyme         | Oxydoreductase | DLD  | IPI00015911  |  |          | 1      |      |       |
| Enzyme         | Oxydoreductase | DNAJC10  | IPI00293260  | 11                                     | 16       | 24     | 36   | 47    |
| Enzyme         | Oxydoreductase | ERO1L  | IPI00479733  |  | 3        | 4      |      |       |
| Enzyme         | Oxydoreductase | ETFA   | IPI00010810  |  | 7        |        | 6    |       |
| Enzyme         | Oxydoreductase | ETFB   | IPI00556451  |  | 3        |        | 4    |       |
| Enzyme         | Oxydoreductase | FADS1  | IPI00396229  |  |          |        |      | 2     |
| Enzyme         | Oxydoreductase | FADS2  | IPI00183786  |  |          |        |      | 6     |
| Enzyme         | Oxydoreductase | FDF1   | IPI00020944  | 3                                      |          | 3      | 5    | 7     |
| Enzyme         | Oxydoreductase | FDX1   | IPI00019326  |  | 3        |        |      |       |
| Enzyme         | Oxydoreductase | FN1  | IPI00339227  |  | 85       |        |      |       |
| Enzyme         | Oxydoreductase | FVT1   | IPI00029015  |  | 3        |        |      |       |
| Enzyme         | Oxydoreductase | G6PD   | IPI00216008  | 7                                      |          |        |      |       |
| Enzyme         | Oxydoreductase | GAPDH  | IPI00219018  | 46                                     | 46       | 28     | 32   | 41    |
| Enzyme         | Oxydoreductase | GCDH   | IPI00024317  | 4                                      |          |        | 4    | 7     |
| Enzyme         | Oxydoreductase | GLUD1  | IPI00016801  | 4                                      |          |        | 3    |       |
| Enzyme         | Oxydoreductase | GPD1L  | IPI00032959  |  | 1        |        |      |       |
| Enzyme         | Oxydoreductase | GPD2   | IPI00017895  | 17                                     | 6        |        |      |       |
| Enzyme         | Oxydoreductase | GSR  | IPI00016862  | 3                                      | 4        | 3      | 8    |       |
| Enzyme         | Oxydoreductase | GSTO1  | IPI00019755  |  |          | 3      |      |       |
| Enzyme         | Oxydoreductase | HADH2  | IPI00017726  | 5                                      | 16       | 7      | 4    | 24    |
| Enzyme         | Oxydoreductase | HIBADH   | IPI00479966  |  | 5        |        |      |       |
| Enzyme         | Oxydoreductase | HMOX1  | IPI00215893  |  | 1        |        |      |       |
| Enzyme         | Oxydoreductase | HMOX2  | IPI00026824  | 5                                      |          | 4      | 1    | 6     |
| Enzyme         | Oxydoreductase | HSD11B2  | IPI00300050  |  | 31       |        |      |       |
| Enzyme         | Oxydoreductase | HSD17B1  | IPI00719246  |  | 47       |        |      |       |
| Enzyme         | Oxydoreductase | HSD17B2  | IPI00019872  |  | 15       |        |      |       |
| Enzyme         | Oxydoreductase | HSD17B12   | IPI00007676  | 8                                      | 6        |        |      | 7     |
| Enzyme         | Oxydoreductase | HSDL2  | IPI00414384  | 4                                      |          |        | 3    | 2     |
| Enzyme         | Oxydoreductase | IDH1   | IPI00027223  | 1                                      |          |        | 2    |       |
| Enzyme         | Oxydoreductase | IDH2   | IPI00011107  |  |          | 1      | 5    |       |
| Enzyme         | Oxydoreductase | IDH3A  | IPI00030702  |  |          |        | 1    | 2     |
| Enzyme         | Oxydoreductase | IPI00177674.1  | IPI00177674  | 1                                      | 2        |        |      |       |
| Enzyme         | Oxydoreductase | JMJD1A   | IPI00479179  |  |          |        |      | 3     |
| Enzyme         | Oxydoreductase | LDHA   | IPI00217966  | 8                                      | 11       |        | 9    | 19    |
| Enzyme         | Oxydoreductase | LDHB   | IPI00219217  | 8                                      | 3        | 5      | 9    | 14    |
| Enzyme         | Oxydoreductase | LDHC   | IPI00554498  |  | 2        |        |      |       |
| Enzyme         | Oxydoreductase | LEPREL2  | IPI00217056  |  | 9        |        | 5    |       |
| Enzyme         | Oxydoreductase | MAOA   | IPI00008483  |  | 16       |        |      |       |
| Enzyme         | Oxydoreductase | MDH1   | IPI00291005  | 4                                      | 2        |        | 5    | 3     |
| Enzyme         | Oxydoreductase | MDH2   | IPI00291006  | 6                                      | 19       |        | 10   | 9     |
| Enzyme         | Oxydoreductase | MGC23280   | IPI00559955  |  |          |        |      | 1     |
| Enzyme         | Oxydoreductase | MSRB3  | IPI00479793  |  | 3        |        |      |       |
| Enzyme         | Oxydoreductase | ND3  | IPI00071334  |  |          |        | 1    | 2     |
| Enzyme         | Oxydoreductase | ND4  | IPI00008495  |  |          |        |      | 8     |
| Enzyme         | Oxydoreductase | ND5  | IPI00008511  |  |          |        |      | 2     |
| Enzyme         | Oxydoreductase | NDUFA4   | IPI00011770  |  |          |        | 3    | 5     |
| Enzyme         | Oxydoreductase | NDUFA5   | IPI00412545  | 4                                      |          | 2      | 3    | 2     |
| Enzyme         | Oxydoreductase | NDUFA8   | IPI00219034  |  |          | 3      | 4    |       |
| Enzyme         | Oxydoreductase | NDUFA11  | IPI00329301  |  |          |        |      | 3     |
| Enzyme         | Oxydoreductase | NDUFA12  | IPI00005966  |  |          |        |      | 3     |
| Enzyme         | Oxydoreductase | NDUFA13  | IPI00219685  |  |          | 1      |      | 4     |
| Enzyme         | Oxydoreductase | NDUFB4   | IPI00220059  |  |          |        |      | 3     |
| Enzyme         | Oxydoreductase | NDUFB5   | IPI00013459  |  |          |        |      | 2     |
| Enzyme         | Oxydoreductase | NDUFB9   | IPI00255052  |  |          |        | 1    | 4     |
| Enzyme         | Oxydoreductase | NDUFB10  | IPI00479905  |  |          | 4      |      | 5     |
| Enzyme         | Oxydoreductase | NDUFB11  | IPI00478450  |  |          | 1      | 1    | 3     |
| Enzyme         | Oxydoreductase | NDUFS3   | IPI00025796  |  |          |        |      | 5     |
| Enzyme         | Oxydoreductase | NDUFS7   | IPI00307749  |  |          | 4      |      |       |
| Enzyme         | Oxydoreductase | NDUFS7   | IPI00385965  |  |          |        | 2    | 4     |
| Enzyme         | Oxydoreductase | NDUFS8   | IPI00010845  |  |          |        |      | 1     |
| Enzyme         | Oxydoreductase | NOS3   | IPI00218845  |  | 8        |        |      |       |
| Enzyme         | Oxydoreductase | NQO1   | IPI00012069  | 61                                     | 43       | 38     | 69   |       |
| Enzyme         | Oxydoreductase | NQO2   | IPI00219129  | 1392                                   | 355      | 2445   | 4641 | 136   |
| Enzyme         | Oxydoreductase | P4HA1  | IPI00009923  |  |          | 5      |      | 11    |
| Enzyme         | Oxydoreductase | PDCD8  | IPI00000690  |  | 5        | 3      | 7    | 8     |
| Enzyme         | Oxydoreductase | PDHA1  | IPI00306301  | 41                                     |          | 16     | 48   | 51    |
| Enzyme         | Oxydoreductase | PDHB   | IPI00003925  | 46                                     | 34       | 25     | 36   | 57    |
| Enzyme         | Oxydoreductase | PGD  | IPI00219525  | 2                                      |          |        | 6    |       |
| Enzyme         | Oxydoreductase | PHGDH  | IPI00011200  | 12                                     |          | 9      | 17   | 12    |
| Enzyme         | Oxydoreductase | PNPO   | IPI00018272  |  |          |        | 1    |       |
| Enzyme         | Oxydoreductase | POR  | IPI00470467  |  | 4        |        |      |       |
| Enzyme         | Oxydoreductase | PYCR1  | IPI00550882  | 2                                      |          |        | 4    | 4     |
| Enzyme         | Oxydoreductase | PYCR1  | IPI00646105  | 2                                      |          | 2      | 2    | 4     |
| Enzyme         | Oxydoreductase | PYRROLINE 5-CARBOXYLATE REDUCTASE.   | IPI00470610  |  |          |        | 2    |       |
| Enzyme         | Oxydoreductase | RDH10  | IPI00218086  |  | 1        |        |      |       |
| Enzyme         | Oxydoreductase | RDH11  | IPI00339384  |  |          | 10     |      | 9     |
| Enzyme         | Oxydoreductase | RDH13  | IPI00301204  |  | 3        |        |      |       |
| Enzyme         | Oxydoreductase | RetSat   | IPI00296157  |  |          |        |      |       |
| Enzyme         | Oxydoreductase | RRM1   | IPI00013871  | 9                                      |          |        | 5    | 8     |
| Enzyme         | Oxydoreductase | RRM2   | IPI00011118  |  |          |        |      | 7     |
| Enzyme         | Oxydoreductase | RRM2B  | IPI00100213  |  |          |        |      | 6     |
| Enzyme         | Oxydoreductase | SC4MOL   | IPI00019899  |  |          | 1      |      | 2     |
| Enzyme         | Oxydoreductase | SDHA   | IPI00305166  | 4                                      | 15       | 19     | 13   | 25    |
| Enzyme         | Oxydoreductase | SDHB   | IPI00294911  |  | 3        | 3      |      | 7     |
| Enzyme         | Oxydoreductase | SEPX1  | IPI00654889  |  |          |        | 1    |       |
| Enzyme         | Oxydoreductase | SIMILAR TO CYTOCHROME C.   | IPI00176698  |  |          | 1      |      |       |
| Enzyme         | Oxydoreductase | SOD1   | IPI00218733  |  | 5        |        | 3    |       |
| Enzyme         | Oxydoreductase | SOD2   | IPI00022314  |  |          |        | 3    |       |
| Enzyme         | Oxydoreductase | SOD3   | IPI00027827  |  | 2        |        |      |       |
| Enzyme         | Oxydoreductase | SPR  | IPI00017469  | 9                                      |          |        | 23   |       |
| Enzyme         | Oxydoreductase | SQRDL  | IPI00009634  | 1                                      |          |        |      |       |
| Enzyme         | Oxydoreductase | SRD5A2L  | IPI00002344  |  |          | 8      |      |       |
| Enzyme         | Oxydoreductase | TXN  | IPI00216298  | 16                                     | 9        | 14     | 15   | 11    |
| Enzyme         | Oxydoreductase | TXNDC  | IPI00395887  | 5                                      | 2        | 27     | 26   | 11    |
| Enzyme         | Oxydoreductase | TXNDC12  | IPI00026328  |  | 3        |        | 6    |       |
| Enzyme         | Oxydoreductase | TXNL1  | IPI00642032  |  | 7        |        |      | 10    |
| Enzyme         | Oxydoreductase | TXNRD1   | IPI00554786  | 2                                      | 4        | 3      |      |       |
| Enzyme         | Oxydoreductase | UGDH   | IPI00031420  | 4                                      |          |        |      |       |
| Enzyme         | Oxydoreductase | VCL  | IPI00307162  |  | 13       |        | 4    |       |
| Enzyme         | Oxydoreductase | VKORC1   | IPI00168079  |  | 3        | 5      | 1    | 7     |
| Enzyme         | Oxydoreductase | VKORC1   | IPI00644735  |  |          | 1      |      |       |
| Enzyme         | Oxydoreductase | YWHAB  | IPI00216318  | 28                                     | 27       | 41     | 49   | 86    |
| Enzyme         | Peptidase      | MEST   | IPI00298947  |  | 9        |        |      |       |
| Enzyme         | Peroxidase     | CAT  | IPI00465436  | 4                                      | 7        | 1      |      | 9     |
| Enzyme         | Peroxidase     | GPX1   | IPI00293975  |  | 3        |        |      |       |
| Enzyme         | Peroxidase     | GPX4   | IPI00304814  |  | 4        |        |      |       |
| Enzyme         | Peroxidase     | GPX7   | IPI00045798  |  | 5        |        |      |       |
| Enzyme         | Peroxidase     | MGST3  | IPI00639812  | 1                                      | 13       |        | 2    | 3     |

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| Protein family | Subfamily     | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|----------------|---------------|--|--------------|--|----------|--------|------|-------|
|                |               |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Enzyme         | Peroxidase    | PRDX1  | IPI00000874  |  | 108      | 46     | 50   | 49    |
| Enzyme         | Peroxidase    | PRDX2  | IPI00027350  |  | 21       |        | 6    | 6     |
| Enzyme         | Peroxidase    | PRDX3  | IPI00024919  |  | 19       | 7      | 7    | 12    |
| Enzyme         | Peroxidase    | PRDX4  | IPI00011937  | 21                                     | 11       | 7      | 6    | 12    |
| Enzyme         | Peroxidase    | PRDX5  | IPI00024915  | 3                                      | 5        |        | 6    |       |
| Enzyme         | Peroxidase    | PRDX6  | IPI00220301  | 8                                      | 25       | 4      | 19   | 11    |
| Enzyme         | Peroxidase    | PTGS1  | IPI00298267  |  |          |        | 4    |       |
| Enzyme         | Peroxidase    | SAPS1  | IPI00402008  | 7                                      |          | 12     | 6    | 7     |
| Enzyme         | Peroxidase    | SAPS2  | IPI00414872  |  |          |        | 1    |       |
| Enzyme         | Peroxidase    | SAPS3  | IPI00719725  | 5                                      |          |        | 5    |       |
| Enzyme         | Phospholipase | LYSOPHOSPHOLIPASE LPL-I.   | IPI00385212  |  | 10       |        | 9    | 8     |
| Enzyme         | Protease      | C1QC   | IPI00222394  |  | 4        |        |      |       |
| Enzyme         | Protease      | C7   | IPI00296608  |  | 2        |        |      |       |
| Enzyme         | Protease      | C8A  | IPI00111252  |  | 10       |        |      |       |
| Enzyme         | Protease      | C8B  | IPI00294395  |  | 7        |        |      |       |
| Enzyme         | Protease      | C8G  | IPI00011261  |  | 6        |        |      |       |
| Enzyme         | Protease      | CFH  | IPI00029739  |  | 16       |        |      |       |
| Enzyme         | Protease      | SIMILAR TO TRANSMEMBRANE PROTEASE, SERINE 3 (SERI                              | IPI00023802  | 8                                      |          |        |      |       |
| Enzyme         | Transferase   | AASDHPPT   | IPI00250297  |  |          |        | 2    | 2     |
| Enzyme         | Transferase   | ACAA2  | IPI00001539  |  |          |        | 2    |       |
| Enzyme         | Transferase   | ACAT1  | IPI00030363  |  |          |        | 10   |       |
| Enzyme         | Transferase   | ACAT2  | IPI00291419  | 2                                      |          |        |      |       |
| Enzyme         | Transferase   | AGPAT1   | IPI00019141  |  |          | 3      | 4    |       |
| Enzyme         | Transferase   | AGPAT2   | IPI00464993  | 2                                      |          |        | 1    |       |
| Enzyme         | Transferase   | AGPAT5   | IPI00028491  |  | 1        |        |      |       |
| Enzyme         | Transferase   | AGPS   | IPI00010349  | 2                                      |          | 2      |      | 3     |
| Enzyme         | Transferase   | AKAP2  | IPI00032064  |  | 3        | 1      |      |       |
| Enzyme         | Transferase   | ALG1   | IPI00549761  |  |          |        |      | 4     |
| Enzyme         | Transferase   | ALG3   | IPI00178700  | 3                                      | 5        |        | 1    | 6     |
| Enzyme         | Transferase   | ALG10  | IPI00105827  | 4                                      | 7        | 6      |      | 15    |
| Enzyme         | Transferase   | ANP32A   | IPI00025849  | 18                                     | 11       | 23     | 5    | 14    |
| Enzyme         | Transferase   | ANP32B   | IPI00007423  | 14                                     | 3        | 19     | 11   | 9     |
| Enzyme         | Transferase   | ANP32C   | IPI00018262  | 2                                      |          |        |      | 3     |
| Enzyme         | Transferase   | ASMTL  | IPI00003119  |  |          |        |      | 3     |
| Enzyme         | Transferase   | AYTL2  | IPI00171626  | 3                                      |          | 2      | 1    | 1     |
| Enzyme         | Transferase   | BAT2D1   | IPI00083708  |  |          |        |      | 2     |
| Enzyme         | Transferase   | BCAT1  | IPI00382412  |  |          |        | 5    | 11    |
| Enzyme         | Transferase   | BGN  | IPI00010790  |  | 3        |        |      |       |
| Enzyme         | Transferase   | C20orf38   | IPI00640240  |  |          |        |      | 13    |
| Enzyme         | Transferase   | C21orf2  | IPI00414362  | 3                                      |          |        |      | 1     |
| Enzyme         | Transferase   | CDS2   | IPI00032150  |  | 5        |        |      | 1     |
| Enzyme         | Transferase   | CEPT1  | IPI00005775  |  |          |        |      | 3     |
| Enzyme         | Transferase   | CHSY1  | IPI00329141  |  |          |        |      | 3     |
| Enzyme         | Transferase   | CINP   | IPI00013263  |  |          | 1      |      |       |
| Enzyme         | Transferase   | CKB  | IPI00022977  | 2                                      |          |        | 5    |       |
| Enzyme         | Transferase   | CMAS   | IPI00303158  |  | 1        |        |      |       |
| Enzyme         | Transferase   | COASY  | IPI00184821  |  |          |        |      | 3     |
| Enzyme         | Transferase   | COMMD3   | IPI00015773  |  |          |        |      | 3     |
| Enzyme         | Transferase   | COMT   | IPI00011284  |  | 5        |        | 10   |       |
| Enzyme         | Transferase   | CPT1A  | IPI00032038  | 18                                     | 3        | 16     |      | 3     |
| Enzyme         | Transferase   | CRKL   | IPI00004839  | 6                                      | 12       | 8      | 45   | 27    |
| Enzyme         | Transferase   | CS   | IPI00719297  |  |          |        | 2    | 3     |
| Enzyme         | Transferase   | DAD1   | IPI00009407  | 1                                      | 2        | 2      | 1    |       |
| Enzyme         | Transferase   | DC2  | IPI00414361  | 2                                      | 6        | 4      | 3    | 6     |
| Enzyme         | Transferase   | DCN  | IPI00012119  |  | 53       |        |      |       |
| Enzyme         | Transferase   | DCTN5  | IPI00032498  |  | 1        |        |      |       |
| Enzyme         | Transferase   | DDOST  | IPI00297084  |  |          | 3      | 3    | 3     |
| Enzyme         | Transferase   | DHPS   | IPI00026829  |  |          |        | 15   |       |
| Enzyme         | Transferase   | DKFZP586A0522  | IPI00022300  |  | 2        |        |      | 1     |
| Enzyme         | Transferase   | DLAT   | IPI00604707  | 74                                     | 65       | 182    | 199  | 97    |
| Enzyme         | Transferase   | DNMT1  | IPI00031519  |  |          | 2      |      | 8     |
| Enzyme         | Transferase   | DPM1   | IPI00514278  | 4                                      | 3        | 3      | 4    | 6     |
| Enzyme         | Transferase   | ELOVL5   | IPI00647062  |  |          |        | 2    |       |
| Enzyme         | Transferase   | ELOVL6   | IPI00031695  | 4                                      |          |        | 1    |       |
| Enzyme         | Transferase   | F13A1  | IPI00297550  |  | 44       |        |      |       |
| Enzyme         | Transferase   | FBL  | IPI00025039  |  |          | 6      |      | 9     |
| Enzyme         | Transferase   | FDPS   | IPI00101405  | 1                                      |          |        |      |       |
| Enzyme         | Transferase   | FLAD1  | IPI00220299  |  |          |        |      | 3     |
| Enzyme         | Transferase   | FLII   | IPI00031023  | 5                                      |          |        |      | 5     |
| Enzyme         | Transferase   | FLJ10774   | IPI00300127  |  |          | 1      |      | 1     |
| Enzyme         | Transferase   | FLJ21901   | IPI00386852  |  |          |        | 6    |       |
| Enzyme         | Transferase   | FN3K   | IPI00023729  | 3                                      |          |        | 2    |       |
| Enzyme         | Transferase   | FN3KRP   | IPI00099986  | 83                                     | 163      | 22     | 22   | 28    |
| Enzyme         | Transferase   | FNTA   | IPI00026813  |  |          |        | 1    |       |
| Enzyme         | Transferase   | FUT8   | IPI00004668  |  |          |        |      | 7     |
| Enzyme         | Transferase   | GALNT2   | IPI00004669  | 2                                      |          |        |      | 2     |
| Enzyme         | Transferase   | GFPT1  | IPI00217952  | 6                                      | 21       |        | 7    | 1     |
| Enzyme         | Transferase   | GNPAT  | IPI00005677  |  |          | 1      |      |       |
| Enzyme         | Transferase   | GOT2   | IPI00018206  |  |          |        | 7    | 2     |
| Enzyme         | Transferase   | GSTM3  | IPI00246975  | 11                                     | 7        | 3      |      |       |
| Enzyme         | Transferase   | GSTP1  | IPI00219757  |  | 23       | 6      | 12   | 17    |
| Enzyme         | Transferase   | HAT1   | IPI00024719  |  |          | 1      | 3    | 2     |
| Enzyme         | Transferase   | HRMT1L2  | IPI00018522  | 3                                      |          |        | 8    | 17    |
| Enzyme         | Transferase   | HRMT1L3  | IPI00103026  |  |          |        |      | 4     |
| Enzyme         | Transferase   | HS2ST1   | IPI00549891  |  |          |        |      | 3     |
| Enzyme         | Transferase   | HTF9C  | IPI00337307  |  |          | 27     |      | 3     |
| Enzyme         | Transferase   | ICMT   | IPI00031458  |  |          | 4      |      | 4     |
| Enzyme         | Transferase   | ILVBL  | IPI00554541  | 3                                      | 13       |        |      | 4     |
| Enzyme         | Transferase   | JTV1   | IPI00011916  | 3                                      |          |        | 3    | 5     |
| Enzyme         | Transferase   | LRRC1  | IPI00427739  |  | 6        |        |      |       |
| Enzyme         | Transferase   | LRRC47   | IPI00170935  |  |          | 4      |      | 2     |
| Enzyme         | Transferase   | LRRC59   | IPI00396321  | 14                                     | 8        | 4      | 7    | 8     |
| Enzyme         | Transferase   | LRR1Q2   | IPI00383439  |  |          | 2      |      |       |
| Enzyme         | Transferase   | LUM  | IPI00020986  |  | 3        |        |      |       |
| Enzyme         | Transferase   | MAPKAP1  | IPI00028195  |  |          |        |      | 2     |
| Enzyme         | Transferase   | MAT2A  | IPI00010157  | 3                                      |          |        | 3    | 5     |
| Enzyme         | Transferase   | MGC5297  | IPI00031696  | 3                                      |          |        |      |       |
| Enzyme         | Transferase   | MGC5352  | IPI00063242  | 7                                      | 2        | 13     | 13   | 17    |
| Enzyme         | Transferase   | MGMT   | IPI00028618  |  |          | 7      |      | 6     |
| Enzyme         | Transferase   | MGST1  | IPI00021805  |  |          |        |      | 4     |
| Enzyme         | Transferase   | MMAB   | IPI00029665  |  |          |        |      | 1     |
| Enzyme         | Transferase   | MOCOS  | IPI00304895  | 5                                      |          |        |      |       |
| Enzyme         | Transferase   | MPP1   | IPI00215610  |  | 5        |        |      |       |
| Enzyme         | Transferase   | MTAP   | IPI00011876  | 103                                    | 69       |        |      | 12    |
| Enzyme         | Transferase   | MULK   | IPI00019353  | 2                                      |          | 1      | 4    | 7     |
| Enzyme         | Transferase   | MYBBP1A  | IPI00607584  | 11                                     |          |        |      |       |
| Enzyme         | Transferase   | NMT1   | IPI00329692  |  |          |        | 3    | 2     |
| Enzyme         | Transferase   | NP   | IPI00017672  | 3                                      | 5        |        | 4    | 3     |
| Enzyme         | Transferase   | OACT1  | IPI00374294  |  |          | 1      | 3    |       |
| Enzyme         | Transferase   | OACT5  | IPI00306419  | 8                                      | 26       | 1      |      | 6     |

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| Protein family      | Subfamily         | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|---------------------|-------------------|--|--------------|--|----------|--------|------|-------|
|                     |                   |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Enzyme              | Transferase       | OAT  | IPI00022334  |  |          |        | 1    |       |
| Enzyme              | Transferase       | OGT  | IPI00005780  | 2                                      |          | 2      |      | 2     |
| Enzyme              | Transferase       | OTTHUMP00000042411.  | IPI00552282  |  |          |        |      | 2     |
| Enzyme              | Transferase       | PARP1  | IPI00449049  | 19                                     |          | 17     | 24   | 15    |
| Enzyme              | Transferase       | PARP4  | IPI00296909  | 1                                      |          |        |      | 6     |
| Enzyme              | Transferase       | PCMT1  | IPI00411680  | 3                                      | 4        |        | 11   | 6     |
| Enzyme              | Transferase       | PCNA   | IPI00021700  | 9                                      |          | 10     | 4    | 12    |
| Enzyme              | Transferase       | PCYT1A   | IPI00384629  | 4                                      |          |        |      | 2     |
| Enzyme              | Transferase       | PDHX   | IPI00298423  | 25                                     | 7        | 11     | 44   |       |
| Enzyme              | Transferase       | PHKA1  | IPI00216725  | 26                                     |          |        |      |       |
| Enzyme              | Transferase       | PHKA2  | IPI00004237  | 59                                     | 18       |        | 3    | 70    |
| Enzyme              | Transferase       | PIGH   | IPI00005263  |  | 2        | 3      | 2    | 2     |
| Enzyme              | Transferase       | PIK3AP1  | IPI00419050  |  |          |        |      | 1     |
| Enzyme              | Transferase       | PKM2   | IPI00220644  | 29                                     | 15       | 11     | 8    | 37    |
| Enzyme              | Transferase       | PNMT   | IPI00003466  |  |          |        | 2    |       |
| Enzyme              | Transferase       | POLE4  | IPI00008436  |  |          |        |      | 2     |
| Enzyme              | Transferase       | POLR1D   | IPI00032439  |  |          |        | 1    |       |
| Enzyme              | Transferase       | POLR2B   | IPI00027808  | 5                                      |          | 8      |      |       |
| Enzyme              | Transferase       | POLR2E   | IPI00291093  |  |          |        | 2    |       |
| Enzyme              | Transferase       | POLR2H   | IPI00003309  | 5                                      |          | 2      | 2    | 3     |
| Enzyme              | Transferase       | PRAMEF1  | IPI00480135  |  |          |        |      | 2     |
| Enzyme              | Transferase       | PRKAG1   | IPI00413318  | 194                                    | 128      | 268    | 249  | 215   |
| Enzyme              | Transferase       | PTAR1  | IPI00399115  |  |          |        |      | 2     |
| Enzyme              | Transferase       | PTDSS1   | IPI0010746   | 12                                     | 10       | 8      | 7    | 26    |
| Enzyme              | Transferase       | QPRT   | IPI00300086  |  | 2        |        |      |       |
| Enzyme              | Transferase       | RABGGTB  | IPI00295849  | 5                                      |          |        |      | 3     |
| Enzyme              | Transferase       | RCSL1  | IPI00514815  |  |          |        |      | 2     |
| Enzyme              | Transferase       | RLTPR  | IPI00456628  |  |          |        |      | 3     |
| Enzyme              | Transferase       | RNMT   | IPI00410657  |  |          |        |      | 1     |
| Enzyme              | Transferase       | RPN1   | IPI00025874  | 15                                     | 38       | 32     | 13   | 22    |
| Enzyme              | Transferase       | RPN2   | IPI00301271  |  | 11       | 11     | 2    | 9     |
| Enzyme              | Transferase       | RSU1   | IPI00643346  | 75                                     | 39       | 82     | 8    | 16    |
| Enzyme              | Transferase       | SCAP1  | IPI00289536  |  |          | 14     |      |       |
| Enzyme              | Transferase       | SCRIB  | IPI00410666  | 5                                      |          |        |      |       |
| Enzyme              | Transferase       | SHMT2  | IPI00002520  |  |          |        | 7    |       |
| Enzyme              | Transferase       | SIMILAR TO ATP SYNTHASE GAMMA CHAIN, MITOCHONDRIA                              | IPI00244574  |  |          |        |      | 3     |
| Enzyme              | Transferase       | SKB1   | IPI00441473  | 5                                      |          | 2      |      |       |
| Enzyme              | Transferase       | SKP2   | IPI00163172  | 3                                      |          |        |      |       |
| Enzyme              | Transferase       | SNRPA1   | IPI00183920  | 5                                      |          | 2      | 4    | 3     |
| Enzyme              | Transferase       | SOAT1  | IPI00019898  | 13                                     |          | 9      | 3    | 9     |
| Enzyme              | Transferase       | SPTLC1   | IPI00432425  | 5                                      | 3        | 2      | 7    |       |
| Enzyme              | Transferase       | SPTLC2   | IPI00005751  | 3                                      |          |        |      | 22    |
| Enzyme              | Transferase       | SRP72  | IPI00215888  | 1                                      |          | 3      | 1    |       |
| Enzyme              | Transferase       | STT3A  | IPI00297492  |  | 25       | 8      | 4    | 5     |
| Enzyme              | Transferase       | STT3B  | IPI00152377  |  | 5        | 9      |      |       |
| Enzyme              | Transferase       | TALDO1   | IPI00550488  |  | 7        |        | 6    |       |
| Enzyme              | Transferase       | TARBP1   | IPI00298447  | 17                                     | 2        | 90     | 27   | 45    |
| Enzyme              | Transferase       | TGM1   | IPI00305622  | 3                                      | 5        |        |      |       |
| Enzyme              | Transferase       | TJP2   | IPI00003843  |  | 2        |        | 4    | 38    |
| Enzyme              | Transferase       | TKT  | IPI00021716  | 3                                      | 13       | 3      | 11   | 4     |
| Enzyme              | Transferase       | TRMT1  | IPI00020508  | 3                                      |          |        |      |       |
| Enzyme              | Transferase       | TROVE2   | IPI00019450  | 1                                      |          |        | 1    | 5     |
| Enzyme              | Transferase       | TUSC3  | IPI00013328  |  | 4        |        |      |       |
| Enzyme              | Transferase       | TYMS   | IPI00221108  | 3                                      |          |        |      |       |
| Enzyme              | Transferase       | UBIAD1   | IPI00002468  |  |          |        |      | 2     |
| Enzyme              | Transferase       | UBOX5  | IPI00074719  | 15                                     |          |        |      |       |
| Enzyme              | Transferase       | UGGCL1   | IPI00024466  | 15                                     | 25       | 25     | 6    | 17    |
| Enzyme              | Transferase       | UPP1   | IPI00004406  |  | 9        |        |      |       |
| Enzyme              | Transferase       | WFS1   | IPI00008711  |  | 5        |        |      |       |
| Enzyme              | Transferase       | ZC3HAV1  | IPI00410071  |  |          |        | 1    |       |
| Enzyme              | Transferase       | ZDHHC17  | IPI00410687  |  |          | 2      |      | 1     |
| Enzyme              | Transferase       | ZDHHC18  | IPI00183979  |  |          |        |      |       |
| Enzyme              | Glucosidase       | PRKCSH   | IPI00026154  | 3                                      | 9        | 3      | 5    |       |
| Enzyme              | Phosphatase       | DCD  | IPI00027547  | 7                                      | 10       | 6      | 4    | 8     |
| Enzyme              | Phosphatase       | PTPN22   | IPI00298016  |  |          |        |      | 5     |
| Enzyme              | Phosphatase       | TENC1  | IPI00550368  |  | 24       |        |      |       |
| Enzyme              | Phosphodiesterase | APEX1  | IPI00215911  | 11                                     |          |        |      |       |
| Enzyme              | Phosphodiesterase | ENPP1  | IPI00184311  |  | 5        |        |      |       |
| Enzyme              | Phosphodiesterase | MGC5139  | IPI00414629  |  |          | 51     |      | 33    |
| Enzyme              | Phosphodiesterase | PDE2A  | IPI00655740  | 4                                      | 3        |        |      |       |
| Enzyme              | Phosphodiesterase | PDE4A  | IPI00020973  |  |          |        | 32   |       |
| Enzyme              | Phosphodiesterase | PDE6D  | IPI00015161  | 5                                      | 13       | 5      | 4    | 13    |
| Enzyme              | Phosphodiesterase | PDE7A  | IPI00217833  |  |          | 1      |      |       |
| Enzyme              | Phosphodiesterase | PDE7B  | IPI00619901  |  | 2        |        |      |       |
| Enzyme              | Phosphodiesterase | PDE10A   | IPI00215786  | 307                                    | 52       |        |      |       |
| Enzyme              | Phosphodiesterase | SAMHD1   | IPI00294739  |  | 2        |        |      |       |
| Enzyme              | Phosphodiesterase | UNC119   | IPI00013262  |  |          | 54     |      | 1     |
| Enzyme              | Ubiquitylation    | ANAPC1   | IPI00033907  | 93                                     |          | 64     | 24   | 55    |
| Enzyme              | Ubiquitylation    | ANAPC7   | IPI00008248  | 23                                     |          | 13     | 12   | 22    |
| Enzyme              | Ubiquitylation    | ANAPC11  | IPI00100459  |  |          |        | 1    |       |
| Enzyme              | Ubiquitylation    | FBXO22   | IPI00183208  |  |          | 1      |      | 4     |
| Enzyme              | Ubiquitylation    | FBXO45   | IPI00174438  |  |          | 1      |      | 1     |
| Enzyme              | Ubiquitylation    | PSMD1  | IPI00299608  | 1                                      | 3        | 1      | 6    |       |
| Enzyme              | Ubiquitylation    | PSMD3  | IPI00011603  | 6                                      |          |        |      | 13    |
| Enzyme              | Ubiquitylation    | PSMD4  | IPI00216247  |  |          |        | 3    |       |
| Enzyme              | Ubiquitylation    | PSMD8  | IPI00010201  | 6                                      |          |        |      |       |
| Enzyme              | Ubiquitylation    | PSMD10   | IPI00003565  |  | 2        |        | 3    |       |
| Enzyme              | Ubiquitylation    | PSMD11   | IPI00105598  |  |          |        | 5    | 3     |
| Enzyme              | Ubiquitylation    | PSMD12   | IPI00185374  | 3                                      |          |        |      |       |
| Enzyme              | Ubiquitylation    | PSMD13   | IPI00375380  |  |          |        |      | 2     |
| Heat Shock Proteins | -                 | CRYAB  | IPI00021369  |  | 17       |        |      |       |
| Heat Shock Proteins | -                 | DERL2  | IPI00304264  |  |          | 3      |      |       |
| Heat Shock Proteins | -                 | DERL3  | IPI00430407  |  |          |        |      | 1     |
| Heat Shock Proteins | -                 | DJ-1   | IPI00298547  |  | 12       | 6      | 16   | 13    |
| Heat Shock Proteins | -                 | DNAJA1   | IPI00012535  | 13                                     |          | 15     | 8    | 17    |
| Heat Shock Proteins | -                 | DNAJB2   | IPI00015948  |  | 1        |        |      |       |
| Heat Shock Proteins | -                 | DNAJB6   | IPI00024523  |  |          | 3      |      | 5     |
| Heat Shock Proteins | -                 | HSPA1A   | IPI00514377  | 116                                    | 46       | 33     | 94   | 42    |
| Heat Shock Proteins | -                 | HSPA2  | IPI00007702  | 3                                      | 26       |        |      |       |
| Heat Shock Proteins | -                 | HSPA4  | IPI00002966  | 3                                      |          | 3      | 12   | 2     |
| Heat Shock Proteins | -                 | HSPA4L   | IPI00295485  |  |          |        | 2    |       |
| Heat Shock Proteins | -                 | HSPA6  | IPI00339269  |  | 1        |        |      | 1     |
| Heat Shock Proteins | -                 | HSPA8  | IPI00003865  | 334                                    | 91       | 332    | 204  | 214   |
| Heat Shock Proteins | -                 | HSPB1  | IPI00025512  | 9                                      | 64       |        | 19   | 17    |
| Heat Shock Proteins | -                 | HSPB6  | IPI00022433  |  | 3        |        |      |       |
| Heat Shock Proteins | -                 | HSPCA  | IPI00382470  | 82                                     | 104      | 49     | 52   | 56    |
| Heat Shock Proteins | -                 | HSPCB  | IPI00414676  | 101                                    | 72       | 90     | 110  | 99    |
| Heat Shock Proteins | -                 | HSPD1  | IPI00472102  | 44                                     | 18       | 38     | 40   | 41    |
| Heat Shock Proteins | -                 | HSPE1  | IPI00220362  | 4                                      |          |        | 15   | 5     |
| Heat Shock Proteins | -                 | HSPH1  | IPI00514983  |  |          | 7      | 6    |       |

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| Protein family       | Subfamily             | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|----------------------|-----------------------|--|--------------|--|----------|--------|------|-------|
|                      |                       |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Heat Shock Proteins  | -                     | PTMA   | IPI00385149  |  |          |        |      | 4     |
| Heat Shock Proteins  | -                     | SERPINH1   | IPI00032140  | 6                                      |          |        | 15   |       |
| Heat Shock Proteins  | -                     | SERPINH1   | IPI00442080  |  | 1        |        |      |       |
| Heat Shock Proteins  | -                     | SIMILAR TO 60 KDA HEAT SHOCK PROTEIN, MITOCHONDRI                              | IPI00413048  |  |          | 3      |      |       |
| Heat Shock Proteins  | -                     | SIMILAR TO CDC37 HOMOLOG.  | IPI00259127  |  |          |        |      | 1     |
| Heat Shock Proteins  | -                     | SIMILAR TO HEAT SHOCK 70KD PROTEIN 9B (MORTALIN-2                              | IPI00096692  |  |          |        | 4    | 2     |
| Heat Shock Proteins  | -                     | SIMILAR TO HEAT SHOCK 70KD PROTEIN BINDING PROTEI                              | IPI00107552  |  |          |        | 2    |       |
| Heat Shock Proteins  | -                     | SIMILAR TO HEAT SHOCK COGNATE 71 KDA PROTEIN.                                  | IPI00258419  | 1                                      |          | 1      | 5    | 1     |
| Heat Shock Proteins  | -                     | STIP1  | IPI00013894  |  |          |        | 13   | 3     |
| Heat Shock Proteins  | -                     | TOR1A  | IPI00477657  |  | 2        |        |      |       |
| Heat Shock Proteins  | -                     | TXNDC4   | IPI00401264  |  |          |        | 3    |       |
| Heat Shock Proteins  | ER protein folding    | CANX   | IPI00020984  | 8                                      | 23       |        | 8    | 7     |
| Heat Shock Proteins  | ER protein folding    | ORMDL1   | IPI00009364  |  | 2        | 2      | 2    |       |
| Heat Shock Proteins  | ER protein folding    | ORMDL2   | IPI00171701  | 2                                      |          | 1      |      | 6     |
| Heat Shock Proteins  | ER protein folding    | ORMDL3   | IPI00166066  |  | 5        | 4      | 1    | 4     |
| Nucleic acid binding | Purine metabolism     | ACLY   | IPI00021290  | 16                                     | 11       | 14     | 12   | 5     |
| Nucleic acid binding | Purine metabolism     | ADA  | IPI00296441  |  |          | 11     | 161  | 3     |
| Nucleic acid binding | Purine metabolism     | ADK  | IPI00290279  | 82                                     | 248      | 51     | 161  | 301   |
| Nucleic acid binding | Purine metabolism     | APRT   | IPI00218693  |  | 6        | 3      | 8    |       |
| Nucleic acid binding | Purine metabolism     | ATIC   | IPI00289499  | 1                                      |          | 1      | 5    |       |
| Nucleic acid binding | Purine metabolism     | GART   | IPI00025273  | 5                                      |          | 16     | 14   | 6     |
| Nucleic acid binding | Purine metabolism     | GMPS   | IPI00029079  | 18                                     |          | 9      | 7    | 7     |
| Nucleic acid binding | Purine metabolism     | HPRT1  | IPI00513722  | 2                                      | 3        | 5      | 3    | 9     |
| Nucleic acid binding | Purine metabolism     | IMPDH2   | IPI00291510  | 1                                      |          |        |      |       |
| Nucleic acid binding | Purine metabolism     | MTHFD1   | IPI00218342  | 9                                      |          | 28     | 22   |       |
| Nucleic acid binding | Purine metabolism     | NME1   | IPI00375531  | 2                                      |          | 1      |      | 2     |
| Nucleic acid binding | Purine metabolism     | NME1-NME2  | IPI00604590  | 19                                     |          | 18     | 3    |       |
| Nucleic acid binding | Purine metabolism     | NME3   | IPI00012315  | 4                                      | 51       |        | 9    | 10    |
| Nucleic acid binding | Purine metabolism     | NME4   | IPI00658182  | 15                                     | 102      | 28     | 10   |       |
| Nucleic acid binding | Purine metabolism     | PAICS  | IPI00217223  | 71                                     |          | 17     | 35   | 46    |
| Nucleic acid binding | Purine metabolism     | PFAS   | IPI00004534  | 2                                      |          | 4      |      | 5     |
| Nucleic acid binding | Purine metabolism     | PPAT   | IPI00029534  |  |          |        |      | 4     |
| Nucleic acid binding | Purine metabolism     | SMEK2  | IPI00414323  |  |          | 6      |      | 2     |
| Nucleic acid binding | Pyrimidine metabolism | CAD  | IPI00301263  | 396                                    | 18       | 659    | 479  | 1228  |
| Nucleic acid binding | Pyrimidine metabolism | CDA  | IPI00027983  | 4                                      | 11       |        |      |       |
| Nucleic acid binding | Pyrimidine metabolism | CPS1   | IPI00011062  | 115                                    |          |        |      |       |
| Nucleic acid binding | Pyrimidine metabolism | DUT  | IPI00013679  |  | 3        | 19     | 15   | 52    |
| Nucleic acid binding | Pyrimidine metabolism | ERH  | IPI00029631  |  |          | 5      | 5    |       |
| Nucleic acid binding | Pyrimidine metabolism | FLJ32942   | IPI00218505  |  |          |        | 2    | 3     |
| Nucleic acid binding | Receptor activity     | ARF3   | IPI00215917  |  | 8        | 2      | 11   | 7     |
| Nucleic acid binding | Receptor activity     | G3BP2  | IPI00009057  | 3                                      |          |        |      | 5     |
| Nucleic acid binding | Ribosomal protein     | 20 KDA PROTEIN.  | IPI00478310  |  |          | 4      |      |       |
| Nucleic acid binding | Ribosomal protein     | 40S RIBOSOMAL PROTEIN S23.   | IPI00218606  |  | 2        |        | 3    | 2     |
| Nucleic acid binding | Ribosomal protein     | ARL6IP   | IPI00014232  |  | 1        |        |      | 2     |
| Nucleic acid binding | Ribosomal protein     | EIF2A  | IPI00012462  | 5                                      |          |        |      |       |
| Nucleic acid binding | Ribosomal protein     | ETF1   | IPI00429191  | 2                                      |          |        |      |       |
| Nucleic acid binding | Ribosomal protein     | GADD45A  | IPI00029104  |  |          |        | 6    |       |
| Nucleic acid binding | Ribosomal protein     | GADD45B  | IPI00307805  |  |          |        | 5    | 8     |
| Nucleic acid binding | Ribosomal protein     | ITGB4BP  | IPI00010105  |  |          |        | 2    |       |
| Nucleic acid binding | Ribosomal protein     | LOC388519  | IPI00450975  |  | 7        | 3      | 14   | 9     |
| Nucleic acid binding | Ribosomal protein     | LOC391701  | IPI00376564  |  |          |        |      | 1     |
| Nucleic acid binding | Ribosomal protein     | LOC401016  | IPI00419880  | 4                                      |          |        |      |       |
| Nucleic acid binding | Ribosomal protein     | LOC401676  | IPI00457031  |  |          |        | 1    |       |
| Nucleic acid binding | Ribosomal protein     | LOC441112  | IPI00008527  |  |          |        |      | 2     |
| Nucleic acid binding | Ribosomal protein     | LOC441912  | IPI00218606  |  |          |        |      | 2     |
| Nucleic acid binding | Ribosomal protein     | MRPL12   | IPI00005537  |  |          |        | 4    | 3     |
| Nucleic acid binding | Ribosomal protein     | MRPL14   | IPI00418290  |  |          |        |      | 1     |
| Nucleic acid binding | Ribosomal protein     | MRPL32   | IPI00011077  | 2                                      |          |        |      |       |
| Nucleic acid binding | Ribosomal protein     | MRPL49   | IPI00555553  |  |          |        | 1    |       |
| Nucleic acid binding | Ribosomal protein     | MRPS7  | IPI00006440  | 1                                      |          |        |      |       |
| Nucleic acid binding | Ribosomal protein     | MRPS11   | IPI00010244  |  |          |        | 3    |       |
| Nucleic acid binding | Ribosomal protein     | MRPS17   | IPI00465185  |  |          |        | 1    |       |
| Nucleic acid binding | Ribosomal protein     | MRPS21   | IPI00014812  | 1                                      |          | 1      | 2    | 1     |
| Nucleic acid binding | Ribosomal protein     | NAG  | IPI00333913  |  |          |        | 12   |       |
| Nucleic acid binding | Ribosomal protein     | PREDICTED: SIMILAR TO RIBOSOMAL PROTEIN L7 .                                   | IPI00018680  |  |          |        | 1    |       |
| Nucleic acid binding | Ribosomal protein     | RPL4   | IPI00003918  |  |          |        | 3    |       |
| Nucleic acid binding | Ribosomal protein     | RPL11  | IPI00376798  |  | 4        | 6      | 4    | 5     |
| Nucleic acid binding | Ribosomal protein     | RPL12  | IPI00456966  |  | 6        |        | 12   | 7     |
| Nucleic acid binding | Ribosomal protein     | RPL18  | IPI00215719  |  |          |        | 2    |       |
| Nucleic acid binding | Ribosomal protein     | RPL22  | IPI00219153  | 4                                      | 3        |        | 3    | 5     |
| Nucleic acid binding | Ribosomal protein     | RPL23  | IPI00010153  | 11                                     | 12       | 9      | 12   | 23    |
| Nucleic acid binding | Ribosomal protein     | RPL30  | IPI00219156  | 6                                      | 4        | 5      | 6    | 9     |
| Nucleic acid binding | Ribosomal protein     | RPL38  | IPI00215790  | 4                                      | 3        |        | 6    | 7     |
| Nucleic acid binding | Ribosomal protein     | RPLP0  | IPI00008530  | 2                                      | 2        |        | 2    | 2     |
| Nucleic acid binding | Ribosomal protein     | RPLP2  | IPI00008529  | 4                                      |          |        | 5    | 8     |
| Nucleic acid binding | Ribosomal protein     | RPS3   | IPI00455589  | 15                                     | 8        | 10     | 11   | 5     |
| Nucleic acid binding | Ribosomal protein     | RPS4X  | IPI00217030  | 14                                     | 13       | 13     | 17   | 11    |
| Nucleic acid binding | Ribosomal protein     | RPS5   | IPI00008433  |  |          | 6      | 5    | 11    |
| Nucleic acid binding | Ribosomal protein     | RPS8   | IPI00216587  |  |          |        | 5    |       |
| Nucleic acid binding | Ribosomal protein     | RPS9   | IPI00221088  |  |          |        |      | 1     |
| Nucleic acid binding | Ribosomal protein     | RPS10  | IPI00454704  |  | 3        |        | 2    | 6     |
| Nucleic acid binding | Ribosomal protein     | RPS11  | IPI00025091  |  |          | 6      | 3    | 7     |
| Nucleic acid binding | Ribosomal protein     | RPS12  | IPI00013917  | 3                                      |          |        | 3    |       |
| Nucleic acid binding | Ribosomal protein     | RPS12  | IPI00414922  |  | 4        | 5      |      |       |
| Nucleic acid binding | Ribosomal protein     | RPS13  | IPI00221089  |  | 3        | 3      | 5    | 6     |
| Nucleic acid binding | Ribosomal protein     | RPS14  | IPI00026271  | 3                                      | 8        | 5      | 12   | 8     |
| Nucleic acid binding | Ribosomal protein     | RPS15A   | IPI00221091  | 3                                      | 2        | 6      | 3    | 7     |
| Nucleic acid binding | Ribosomal protein     | RPS17  | IPI00414603  |  |          |        | 6    |       |
| Nucleic acid binding | Ribosomal protein     | RPS18  | IPI00013296  |  | 3        | 5      | 5    | 8     |
| Nucleic acid binding | Ribosomal protein     | RPS19  | IPI00215780  | 6                                      | 6        | 2      | 11   | 7     |
| Nucleic acid binding | Ribosomal protein     | RPS20  | IPI00012493  | 1                                      | 2        | 4      | 3    | 5     |
| Nucleic acid binding | Ribosomal protein     | RPS21  | IPI00387084  |  |          |        |      | 5     |
| Nucleic acid binding | Ribosomal protein     | RPS25  | IPI00012750  | 3                                      |          | 3      | 8    | 6     |
| Nucleic acid binding | Ribosomal protein     | RPS26P10   | IPI00176696  |  |          |        | 2    |       |
| Nucleic acid binding | Ribosomal protein     | RPS27  | IPI00221096  | 4                                      |          |        |      |       |
| Nucleic acid binding | Ribosomal protein     | RPS27  | IPI00422085  |  | 5        |        |      | 8     |
| Nucleic acid binding | Ribosomal protein     | RPS27A   | IPI00387164  | 46                                     | 14       | 62     | 21   | 72    |
| Nucleic acid binding | Ribosomal protein     | RPS28  | IPI00556589  |  |          |        |      | 3     |
| Nucleic acid binding | Ribosomal protein     | RPSA   | IPI00553164  | 3                                      | 2        | 3      | 4    | 6     |
| Nucleic acid binding | Ribosomal protein     | SIMILAR TO 40S RIBOSOMAL PROTEIN S12.  | IPI00414922  |  |          |        |      | 4     |
| Nucleic acid binding | Ribosomal protein     | SIMILAR TO 60S ACIDIC RIBOSOMAL PROTEIN P1 (H. SA                              | IPI00059481  |  |          |        | 1    |       |
| Nucleic acid binding | Ribosomal protein     | SIMILAR TO DJ753D5.2 (NOVEL PROTEIN SIMILAR TO RP                              | IPI00414447  |  |          |        |      |       |
| Nucleic acid binding | Ribosomal protein     | SIMILAR TO RIBOSOMAL PROTEIN L9.   | IPI00140907  |  |          |        | 1    |       |
| Nucleic acid binding | Ribosomal protein     | SIMILAR TO RIBOSOMAL PROTEIN L31.  | IPI00181443  |  |          |        |      |       |
| Nucleic acid binding | Ribosomal protein     | SIMILAR TO RIBOSOMAL PROTEIN S10 (H. SAPIENS).                                 | IPI00037555  |  |          |        |      | 5     |
| Nucleic acid binding | Ribosomal protein     | SIMILAR TO RIBOSOMAL PROTEIN S27.  | IPI00451483  |  |          | 6      | 8    |       |
| Nucleic acid binding | Ribosomal protein     | SIMILAR TO RIBOSOMAL PROTEIN S29.  | IPI00160699  |  |          |        |      | 1     |
| Nucleic acid binding | Ribosomal protein     | SIMILAR TO RIBOSOMAL PROTEIN.  | IPI00095888  |  |          |        |      | 2     |
| Nucleic acid binding | Ribosomal protein     | UBA52  | IPI00328348  | 18                                     | 4        |        | 9    |       |
| Nucleic acid binding | Transcription factor  | AFF1   | IPI00396310  | 44                                     |          | 7      | 49   | 17    |

| Protein family       | Subfamily            | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |    |
|----------------------|----------------------|--|--------------|--|----------|--------|------|-------|----|
|                      |                      |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |    |
| Nucleic acid binding | Transcription factor | AFF4   | IPI00004344  | 106                                    |          |        | 4    | 50    | 45 |
| Nucleic acid binding | Transcription factor | AIP  | IPI00010460  | 3                                      |          |        | 5    |       | 12 |
| Nucleic acid binding | Transcription factor | BATF   | IPI00007422  |  |          |        |      |       | 1  |
| Nucleic acid binding | Transcription factor | CARM1  | IPI00639957  |  |          |        |      | 4     | 5  |
| Nucleic acid binding | Transcription factor | CBFA2T3  | IPI00306845  |  |          |        |      | 2     |    |
| Nucleic acid binding | Transcription factor | CBL  | IPI00027269  |  |          |        |      | 1     |    |
| Nucleic acid binding | Transcription factor | COPS5  | IPI00009958  |  | 1        |        |      |       |    |
| Nucleic acid binding | Transcription factor | EDF1   | IPI00021570  | 2                                      | 1        |        |      | 8     | 6  |
| Nucleic acid binding | Transcription factor | ELL  | IPI00023467  |  |          |        |      | 4     | 4  |
| Nucleic acid binding | Transcription factor | FMNL2  | IPI00464953  |  | 2        |        |      |       |    |
| Nucleic acid binding | Transcription factor | FUBP1  | IPI00163782  | 7                                      |          | 2      | 2    | 2     |    |
| Nucleic acid binding | Transcription factor | G10  | IPI00013180  |  |          |        |      |       | 4  |
| Nucleic acid binding | Transcription factor | GTF2F1   | IPI00017450  |  |          |        |      |       | 1  |
| Nucleic acid binding | Transcription factor | GTF2H1   | IPI00030380  |  |          |        | 3    |       | 3  |
| Nucleic acid binding | Transcription factor | GTF2H2   | IPI00377097  | 3                                      |          |        |      | 8     | 5  |
| Nucleic acid binding | Transcription factor | GTF2H3   | IPI00100791  |  |          |        |      | 6     | 1  |
| Nucleic acid binding | Transcription factor | GTF2H4   | IPI00016839  |  |          |        |      | 5     |    |
| Nucleic acid binding | Transcription factor | GTF2I  | IPI00054042  |  |          |        |      |       | 11 |
| Nucleic acid binding | Transcription factor | GTF3C3   | IPI00015806  |  |          |        |      | 1     |    |
| Nucleic acid binding | Transcription factor | HCFC1  | IPI00019848  |  |          | 1      |      |       |    |
| Nucleic acid binding | Transcription factor | HCLS1  | IPI00026156  |  |          | 137    |      |       |    |
| Nucleic acid binding | Transcription factor | HDAC1  | IPI00013774  | 2                                      |          |        | 4    |       | 10 |
| Nucleic acid binding | Transcription factor | HDAC2  | IPI00289601  |  |          |        |      |       | 1  |
| Nucleic acid binding | Transcription factor | HDAC6  | IPI00005711  | 5                                      |          |        | 13   | 15    | 22 |
| Nucleic acid binding | Transcription factor | HDAC10   | IPI00012439  | 19                                     | 3        |        | 15   | 11    | 9  |
| Nucleic acid binding | Transcription factor | HIGH MOBILITY GROUP PROTEIN HMG-I/HMG-Y.                                       | IPI00177716  |  |          |        |      | 3     |    |
| Nucleic acid binding | Transcription factor | HMGAI  | IPI00179700  |  | 6        |        |      |       | 3  |
| Nucleic acid binding | Transcription factor | HMGGB2   | IPI00219097  |  |          | 12     |      | 4     | 12 |
| Nucleic acid binding | Transcription factor | HNRPD  | IPI00028888  |  | 22       |        |      |       | 6  |
| Nucleic acid binding | Transcription factor | HSD17B8  | IPI00641330  |  | 1        | 1      |      |       | 4  |
| Nucleic acid binding | Transcription factor | HSPC016  | IPI00006378  |  | 2        |        |      | 4     | 4  |
| Nucleic acid binding | Transcription factor | Huntingtin   | IPI00002335  |  |          | 4      |      | 12    | 51 |
| Nucleic acid binding | Transcription factor | ID1  | IPI00012718  |  |          |        |      |       | 2  |
| Nucleic acid binding | Transcription factor | IFI16  | IPI00003443  | 1                                      |          |        | 4    |       | 5  |
| Nucleic acid binding | Transcription factor | ILF3   | IPI00418313  |  | 2        |        |      |       |    |
| Nucleic acid binding | Transcription factor | IRF4   | IPI00289982  |  |          |        |      |       | 7  |
| Nucleic acid binding | Transcription factor | IRF8   | IPI00026224  |  |          |        |      |       | 1  |
| Nucleic acid binding | Transcription factor | KHDRBS1  | IPI00008575  | 5                                      |          |        |      |       |    |
| Nucleic acid binding | Transcription factor | KNTC1  | IPI00001458  | 10                                     |          | 4      |      | 3     | 12 |
| Nucleic acid binding | Transcription factor | Kua  | IPI00397947  |  |          | 1      |      | 6     | 3  |
| Nucleic acid binding | Transcription factor | LASS2  | IPI00305304  |  | 6        | 6      | 3    | 3     | 13 |
| Nucleic acid binding | Transcription factor | LASS2  | IPI00472101  | 11                                     |          |        |      |       |    |
| Nucleic acid binding | Transcription factor | LOC440719  | IPI00455474  |  |          |        |      |       | 1  |
| Nucleic acid binding | Transcription factor | MAFK   | IPI00031018  |  |          |        |      |       | 3  |
| Nucleic acid binding | Transcription factor | MED31  | IPI00007021  |  |          | 1      |      |       |    |
| Nucleic acid binding | Transcription factor | MED31  | IPI00023537  |  |          |        |      |       | 8  |
| Nucleic acid binding | Transcription factor | MLL1   | IPI00100630  | 23                                     |          |        | 10   | 27    | 23 |
| Nucleic acid binding | Transcription factor | MMS19L   | IPI00154451  | 15                                     |          |        | 3    | 4     | 1  |
| Nucleic acid binding | Transcription factor | MSRB2  | IPI00032871  |  | 6        |        |      | 8     |    |
| Nucleic acid binding | Transcription factor | NFKB2  | IPI00024116  | 4                                      |          |        | 2    |       |    |
| Nucleic acid binding | Transcription factor | NPM1   | IPI00014923  |  |          |        | 3    |       |    |
| Nucleic acid binding | Transcription factor | PA2G4  | IPI00299000  |  |          |        |      | 5     |    |
| Nucleic acid binding | Transcription factor | PAF1   | IPI00300333  |  |          |        | 1    | 3     | 4  |
| Nucleic acid binding | Transcription factor | PBXIP1   | IPI00332106  |  | 1        |        |      |       |    |
| Nucleic acid binding | Transcription factor | PCDH1  | IPI00176458  |  | 4        |        |      |       |    |
| Nucleic acid binding | Transcription factor | PFDN1  | IPI00000051  |  | 2        |        |      | 2     | 4  |
| Nucleic acid binding | Transcription factor | PFDN5  | IPI00015361  |  |          |        | 3    | 3     |    |
| Nucleic acid binding | Transcription factor | PHB  | IPI00017334  | 51                                     | 46       |        | 41   | 26    | 65 |
| Nucleic acid binding | Transcription factor | PHF5A  | IPI00005511  | 4                                      |          |        | 2    | 4     | 6  |
| Nucleic acid binding | Transcription factor | PHOX2A   | IPI00024171  | 1                                      |          |        |      |       |    |
| Nucleic acid binding | Transcription factor | PIR  | IPI00012575  | 1                                      |          |        |      |       |    |
| Nucleic acid binding | Transcription factor | POU2AF1  | IPI00293727  |  |          |        |      |       | 7  |
| Nucleic acid binding | Transcription factor | PPARGC1B   | IPI00152517  |  |          |        | 1    |       |    |
| Nucleic acid binding | Transcription factor | PSMC3  | IPI00018398  | 3                                      |          |        | 1    | 3     |    |
| Nucleic acid binding | Transcription factor | PURA   | IPI00023591  |  | 3        |        |      |       |    |
| Nucleic acid binding | Transcription factor | RB1  | IPI00302829  |  |          | 9      |      |       |    |
| Nucleic acid binding | Transcription factor | RBM14  | IPI00013174  |  |          | 2      |      |       |    |
| Nucleic acid binding | Transcription factor | RNF20  | IPI00251559  |  |          |        |      |       | 2  |
| Nucleic acid binding | Transcription factor | RPAP1  | IPI00402657  | 10                                     |          |        | 3    |       | 6  |
| Nucleic acid binding | Transcription factor | RTF1   | IPI00303832  | 1                                      |          |        |      | 3     | 2  |
| Nucleic acid binding | Transcription factor | RUNX1  | IPI00218943  |  |          |        | 3    |       |    |
| Nucleic acid binding | Transcription factor | SAP18  | IPI00011698  |  |          |        |      |       |    |
| Nucleic acid binding | Transcription factor | SFRS2  | IPI00005978  | 1                                      |          |        | 3    | 5     | 8  |
| Nucleic acid binding | Transcription factor | SMAD1  | IPI00019549  |  |          |        | 3    |       |    |
| Nucleic acid binding | Transcription factor | SMARCC1  | IPI00234252  |  |          |        |      | 7     |    |
| Nucleic acid binding | Transcription factor | SMARCC2  | IPI00216047  |  |          |        |      |       | 1  |
| Nucleic acid binding | Transcription factor | SND1   | IPI00140420  | 1                                      | 1        |        |      | 3     | 1  |
| Nucleic acid binding | Transcription factor | STAT3  | IPI00298887  | 8                                      |          |        | 5    | 6     |    |
| Nucleic acid binding | Transcription factor | STAT5A   | IPI00030783  |  |          | 13     |      | 13    |    |
| Nucleic acid binding | Transcription factor | SUB1   | IPI00221222  | 32                                     | 9        |        | 11   | 51    | 6  |
| Nucleic acid binding | Transcription factor | SUPT4H1  | IPI00442913  |  |          |        | 2    | 2     | 2  |
| Nucleic acid binding | Transcription factor | SUPT5H   | IPI00298058  | 7                                      |          |        |      |       |    |
| Nucleic acid binding | Transcription factor | SUPT6H   | IPI00456681  | 2                                      |          |        |      |       | 3  |
| Nucleic acid binding | Transcription factor | SUPT16H  | IPI00026970  |  |          |        |      |       |    |
| Nucleic acid binding | Transcription factor | TARDBP   | IPI00025815  | 28                                     |          |        |      |       |    |
| Nucleic acid binding | Transcription factor | TBR1   | IPI00003421  |  |          | 3      |      | 4     | 5  |
| Nucleic acid binding | Transcription factor | TFAM   | IPI00020928  | 7                                      | 2        |        |      |       |    |
| Nucleic acid binding | Transcription factor | TFCP2  | IPI00037599  |  |          |        |      |       | 6  |
| Nucleic acid binding | Transcription factor | TIAL1  | IPI00005615  | 12                                     | 1        |        |      | 8     | 17 |
| Nucleic acid binding | Transcription factor | TRFP   | IPI00174852  |  |          |        |      |       | 2  |
| Nucleic acid binding | Transcription factor | TRIM22   | IPI00477812  |  |          |        |      |       | 6  |
| Nucleic acid binding | Transcription factor | TRIM25   | IPI00029629  | 11                                     | 13       |        | 4    | 6     |    |
| Nucleic acid binding | Transcription factor | TRIP11   | IPI00003515  |  |          |        |      |       | 1  |
| Nucleic acid binding | Transcription factor | TRIP13   | IPI00003505  | 4                                      |          |        |      | 5     | 4  |
| Nucleic acid binding | Transcription factor | UBTF   | IPI00014533  | 4                                      |          |        | 6    |       |    |
| Nucleic acid binding | Transcription factor | VARSL  | IPI00640597  |  |          |        |      | 1     | 2  |
| Nucleic acid binding | Transcription factor | WDR39  | IPI00008791  | 7                                      | 1        |        |      | 1     | 6  |
| Nucleic acid binding | Transcription factor | YEAT54   | IPI00008536  | 36                                     |          |        | 65   | 23    | 81 |
| Nucleic acid binding | Transcription factor | ZNF207   | IPI00013457  |  |          |        |      | 3     |    |
| Nucleic acid binding | Transcription factor | ZNF265   | IPI00029400  | 8                                      |          |        | 8    | 8     | 15 |
| Nucleic acid binding | Transcription factor | ZNF277   | IPI00479533  |  | 2        |        |      |       |    |
| Nucleic acid binding | Translation factor   | BZW1   | IPI00556167  | 5                                      |          |        |      | 6     | 7  |
| Nucleic acid binding | Translation factor   | BZW2   | IPI00022305  |  |          |        |      | 3     | 7  |
| Nucleic acid binding | Translation factor   | DENR   | IPI00306280  | 3                                      |          |        |      | 3     |    |
| Nucleic acid binding | Translation factor   | EEF1A1   | IPI00472724  |  | 34       |        | 12   |       | 30 |
| Nucleic acid binding | Translation factor   | EEF1A2   | IPI00014424  | 60                                     | 78       |        | 8    | 102   | 35 |
| Nucleic acid binding | Translation factor   | EEF1B2   | IPI00178440  | 2                                      | 2        |        |      | 3     | 1  |
| Nucleic acid binding | Translation factor   | EEF1D  | IPI00023048  | 6                                      | 6        |        | 4    | 4     | 7  |
| Nucleic acid binding | Translation factor   | EEF1G  | IPI00000875  | 3                                      | 5        | 3      |      | 20    | 2  |
| Nucleic acid binding | Translation factor   | EEF2   | IPI00186290  | 22                                     | 12       | 11     | 1    | 18    | 31 |

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| Protein family       | Subfamily          | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|----------------------|--------------------|--|--------------|--|----------|--------|------|-------|
|                      |                    |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Nucleic acid binding | Translation factor | EIF1   | IPI00015077  | 5                                      |          |        |      | 2     |
| Nucleic acid binding | Translation factor | EIF1AY   | IPI00719092  | 8                                      | 4        | 8      | 8    | 7     |
| Nucleic acid binding | Translation factor | EIF2S1   | IPI00219678  | 3                                      | 2        |        |      | 1     |
| Nucleic acid binding | Translation factor | EIF2S3   | IPI00419827  | 17                                     | 1        |        |      |       |
| Nucleic acid binding | Translation factor | EIF3S1   | IPI00290461  | 85                                     | 57       | 127    | 129  | 146   |
| Nucleic acid binding | Translation factor | EIF3S2   | IPI00012795  | 10                                     |          | 4      | 10   | 10    |
| Nucleic acid binding | Translation factor | EIF3S3   | IPI00647650  | 7                                      | 2        | 4      | 7    | 7     |
| Nucleic acid binding | Translation factor | EIF3S4   | IPI00290460  |  |          |        | 1    | 7     |
| Nucleic acid binding | Translation factor | EIF3S5   | IPI00240909  |  |          |        |      | 3     |
| Nucleic acid binding | Translation factor | EIF3S5   | IPI00654777  | 4                                      |          |        | 4    | 3     |
| Nucleic acid binding | Translation factor | EIF3S6   | IPI00013068  | 4                                      |          | 2      | 4    | 11    |
| Nucleic acid binding | Translation factor | EIF3S7   | IPI00006181  | 7                                      |          | 5      | 4    | 12    |
| Nucleic acid binding | Translation factor | EIF3S8   | IPI00016910  | 14                                     |          | 9      | 13   | 6     |
| Nucleic acid binding | Translation factor | EIF3S9   | IPI00719752  | 17                                     | 1        | 8      | 13   | 12    |
| Nucleic acid binding | Translation factor | EIF3S10  | IPI00029012  | 48                                     |          | 14     |      | 47    |
| Nucleic acid binding | Translation factor | EIF3S12  | IPI00033143  |  |          |        | 6    | 7     |
| Nucleic acid binding | Translation factor | EIF4B  | IPI00012079  | 9                                      |          |        |      | 5     |
| Nucleic acid binding | Translation factor | EIF4E  | IPI00027485  | 1                                      | 2        | 2      | 4    | 4     |
| Nucleic acid binding | Translation factor | EIF4G1   | IPI00479262  | 13                                     |          |        |      | 6     |
| Nucleic acid binding | Translation factor | EIF5   | IPI00022648  | 2                                      |          |        |      |       |
| Nucleic acid binding | Translation factor | EIF5A2   | IPI00376005  |  | 8        |        | 20   | 6     |
| Nucleic acid binding | Translation factor | EIF5B  | IPI00299254  | 28                                     |          | 5      | 5    | 4     |
| Nucleic acid binding | Translation factor | EUKARYOTIC TRANSLATION ELONGATION FACTOR 1 ALPHA                               | IPI00513808  |  |          | 8      |      |       |
| Nucleic acid binding | Translation factor | GCN1L1   | IPI00001159  | 315                                    | 58       | 89     | 295  | 475   |
| Nucleic acid binding | Translation factor | GSP11  | IPI00218829  | 7                                      |          |        |      | 9     |
| Nucleic acid binding | Translation factor | KIAA0664   | IPI00024425  | 38                                     |          | 10     |      | 3     |
| Nucleic acid binding | Translation factor | LOC143244  | IPI00218084  |  |          | 5      |      |       |
| Nucleic acid binding | Translation factor | PABPC1   | IPI00008524  |  | 6        |        |      |       |
| Nucleic acid binding | Translation factor | TCEA1  | IPI00333215  |  |          |        | 3    | 2     |
| Nucleic acid binding | Translation factor | TCEA2  | IPI00472949  |  |          |        |      | 2     |
| Nucleic acid binding | Translation factor | TUFM   | IPI00027107  | 8                                      |          | 3      | 16   | 3     |
| Nucleic acid binding | Translation factor | WBSR1  | IPI00014263  | 6                                      | 4        | 1      | 2    | 4     |
| Nucleic acid binding | Translation factor | WDR44  | IPI00444371  | 5                                      | 13       | 9      | 5    |       |
| Nucleic acid binding | Other              | AFF3   | IPI00515069  |  |          |        |      | 31    |
| Nucleic acid binding | Other              | ARL5A  | IPI00412787  |  | 3        |        |      |       |
| Nucleic acid binding | Other              | ARL10  | IPI00446829  |  |          |        |      | 11    |
| Nucleic acid binding | Other              | ARL15  | IPI00005163  |  |          |        | 2    | 1     |
| Nucleic acid binding | Other              | C14orf156  | IPI00009922  | 5                                      |          |        | 6    |       |
| Nucleic acid binding | Other              | C16orf34   | IPI00072955  |  |          |        |      | 1     |
| Nucleic acid binding | Other              | CD19   | IPI00305031  |  |          |        |      | 3     |
| Nucleic acid binding | Other              | CHERP  | IPI00333010  |  |          |        | 1    | 3     |
| Nucleic acid binding | Other              | CIRBP  | IPI00180954  |  | 11       | 2      |      | 3     |
| Nucleic acid binding | Other              | CPSF2  | IPI00419531  | 5                                      |          |        | 3    | 3     |
| Nucleic acid binding | Other              | CPSF3  | IPI00007818  | 2                                      |          |        |      | 6     |
| Nucleic acid binding | Other              | CSPG4  | IPI00019157  |  | 7        |        |      |       |
| Nucleic acid binding | Other              | CSTF2  | IPI00013256  | 2                                      |          |        |      |       |
| Nucleic acid binding | Other              | DDB1   | IPI00293464  | 12                                     | 7        | 15     | 15   | 35    |
| Nucleic acid binding | Other              | DENND4A  | IPI00396063  |  |          |        |      | 1     |
| Nucleic acid binding | Other              | DYNC1L1  | IPI00007675  |  |          |        |      | 5     |
| Nucleic acid binding | Other              | DYNC1L2  | IPI00011592  | 1                                      | 1        |        |      |       |
| Nucleic acid binding | Other              | ERAL1  | IPI00026512  |  |          |        | 1    | 2     |
| Nucleic acid binding | Other              | FANCG  | IPI00005769  | 2                                      |          |        | 1    | 1     |
| Nucleic acid binding | Other              | FRG1   | IPI00004655  |  |          | 7      |      | 3     |
| Nucleic acid binding | Other              | GIMAP1   | IPI00103387  |  | 3        | 3      |      |       |
| Nucleic acid binding | Other              | H1FO   | IPI00550239  |  | 8        |        |      | 1     |
| Nucleic acid binding | Other              | H2AFV  | IPI00654702  |  |          |        |      |       |
| Nucleic acid binding | Other              | H2AFZ  | IPI00644478  |  |          |        |      | 4     |
| Nucleic acid binding | Other              | HIST1H1B   | IPI00217468  |  | 8        |        |      |       |
| Nucleic acid binding | Other              | HIST1H1C   | IPI00217465  |  | 26       |        |      |       |
| Nucleic acid binding | Other              | HIST1H1E   | IPI00217466  | 2                                      | 11       | 1      |      |       |
| Nucleic acid binding | Other              | HIST1H2BN  | IPI00719084  | 3                                      | 8        | 9      |      | 4     |
| Nucleic acid binding | Other              | HIST3H2BB  | IPI00619923  |  |          |        |      | 4     |
| Nucleic acid binding | Other              | HIST4H4  | IPI00453473  | 6                                      | 4        | 7      | 3    | 7     |
| Nucleic acid binding | Other              | HMGB3  | IPI00217477  | 3                                      | 30       |        |      |       |
| Nucleic acid binding | Other              | HMGN2  | IPI00478470  |  |          |        |      | 1     |
| Nucleic acid binding | Other              | HNRPA0   | IPI00011913  |  | 2        |        |      |       |
| Nucleic acid binding | Other              | HNRPH2   | IPI00026230  | 1                                      |          |        |      | 2     |
| Nucleic acid binding | Other              | HNRPL  | IPI00027834  |  | 3        | 4      | 1    | 5     |
| Nucleic acid binding | Other              | HNRPM  | IPI00171903  | 20                                     |          | 2      | 12   | 19    |
| Nucleic acid binding | Other              | HNRPR  | IPI00644055  | 2                                      |          | 2      |      |       |
| Nucleic acid binding | Other              | HNRPU  | IPI00025054  | 31                                     | 22       | 11     | 22   | 9     |
| Nucleic acid binding | Other              | HNRPUL1  | IPI00013070  |  |          | 3      | 3    | 10    |
| Nucleic acid binding | Other              | HSPA12B  | IPI00307820  |  | 3        |        |      |       |
| Nucleic acid binding | Other              | HYOU1  | IPI00000877  |  | 4        |        |      |       |
| Nucleic acid binding | Other              | HYPOTHETICAL PROTEIN XP_016170.  | IPI00180730  |  | 1        |        |      |       |
| Nucleic acid binding | Other              | IFITM3   | IPI00303726  | 9                                      | 1        |        | 5    |       |
| Nucleic acid binding | Other              | IPI00003262.1  | IPI00003262  | 2                                      |          |        |      |       |
| Nucleic acid binding | Other              | KHSRP  | IPI00479786  | 5                                      | 3        | 31     | 38   | 34    |
| Nucleic acid binding | Other              | KLHDC3   | IPI00662558  | 4                                      |          |        |      | 3     |
| Nucleic acid binding | Other              | LANCL2   | IPI00032995  | 2                                      |          | 2      | 2    | 3     |
| Nucleic acid binding | Other              | LARP1  | IPI00185919  |  |          |        |      | 2     |
| Nucleic acid binding | Other              | LIME1  | IPI00553175  |  |          | 6      |      | 3     |
| Nucleic acid binding | Other              | LRPPRC   | IPI00329745  | 15                                     |          |        | 13   | 13    |
| Nucleic acid binding | Other              | LRRFIP1  | IPI00656067  |  |          |        |      | 6     |
| Nucleic acid binding | Other              | MCM3AP   | IPI00028954  |  |          |        |      | 2     |
| Nucleic acid binding | Other              | MCTS1  | IPI00645446  |  | 4        |        | 2    |       |
| Nucleic acid binding | Other              | NACA   | IPI00023748  | 6                                      | 1        | 2      | 2    | 2     |
| Nucleic acid binding | Other              | NCK2   | IPI00306531  | 8                                      |          |        | 27   | 35    |
| Nucleic acid binding | Other              | NCL  | IPI00604620  | 9                                      | 8        |        | 9    |       |
| Nucleic acid binding | Other              | NHP2L1   | IPI00026167  | 3                                      | 3        | 2      | 1    | 3     |
| Nucleic acid binding | Other              | NOLA2  | IPI00041325  |  |          |        |      | 2     |
| Nucleic acid binding | Other              | NOLC1  | IPI00216654  | 30                                     |          | 14     | 23   | 32    |
| Nucleic acid binding | Other              | NOM1   | IPI00145593  |  |          | 2      |      | 5     |
| Nucleic acid binding | Other              | NPM3   | IPI00026496  |  |          |        |      | 1     |
| Nucleic acid binding | Other              | NUBP2  | IPI00644674  | 3                                      | 2        | 3      | 5    | 4     |
| Nucleic acid binding | Other              | PBP  | IPI00454722  |  | 6        |        | 7    | 4     |
| Nucleic acid binding | Other              | PDCD5  | IPI00023640  | 3                                      |          |        | 4    |       |
| Nucleic acid binding | Other              | PDLIM5   | IPI00007935  |  | 6        |        |      |       |
| Nucleic acid binding | Other              | PLCG1  | IPI00016736  |  |          | 16     |      |       |
| Nucleic acid binding | Other              | POLDIP3  | IPI00440688  | 3                                      |          |        |      | 4     |
| Nucleic acid binding | Other              | POM121   | IPI00032358  |  |          |        |      | 1     |
| Nucleic acid binding | Other              | PPP4C  | IPI00012833  | 11                                     | 4        | 11     | 10   | 21    |
| Nucleic acid binding | Other              | PRPF39   | IPI00383823  | 4                                      |          |        | 1    | 8     |
| Nucleic acid binding | Other              | PSPC1  | IPI00103525  |  |          |        |      | 2     |
| Nucleic acid binding | Other              | PTRF   | IPI00176903  |  |          |        | 2    |       |
| Nucleic acid binding | Other              | PUM1   | IPI00032355  |  |          |        |      | 1     |
| Nucleic acid binding | Other              | RAB2   | IPI00031169  |  | 4        |        | 1    | 2     |
| Nucleic acid binding | Other              | RAB8A  | IPI00028481  |  | 3        |        |      | 1     |
| Nucleic acid binding | Other              | RAB17  | IPI00007866  | 28                                     | 8        |        |      |       |
| Nucleic acid binding | Other              | RAB21  | IPI00007755  | 1                                      | 8        | 3      | 2    | 4     |

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| Protein family       | Subfamily        | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|----------------------|------------------|--|--------------|--|----------|--------|------|-------|
|                      |                  |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Nucleic acid binding | Other            | RAD23B   | IPI00008223  |  |          | 12     |      |       |
| Nucleic acid binding | Other            | RAP2B  | IPI00018364  |  |          | 3      |      |       |
| Nucleic acid binding | Other            | RAVER1   | IPI000217661 |  |          |        |      | 3     |
| Nucleic acid binding | Other            | RBM3   | IPI00024320  | 4                                      | 7        | 1      |      | 3     |
| Nucleic acid binding | Other            | RBM17  | IPI00176706  |  |          |        | 2    |       |
| Nucleic acid binding | Other            | RBM25  | IPI00004273  |  |          | 11     | 6    |       |
| Nucleic acid binding | Other            | RCC2   | IPI00465044  | 7                                      | 2        | 17     | 10   | 15    |
| Nucleic acid binding | Other            | RNPC2  | IPI00163505  | 8                                      |          | 5      | 5    | 11    |
| Nucleic acid binding | Other            | SAR1B  | IPI00002149  |  | 1        | 1      |      | 2     |
| Nucleic acid binding | Other            | SF3A1  | IPI00017451  | 1                                      |          |        | 5    |       |
| Nucleic acid binding | Other            | SF3B1  | IPI00026089  | 10                                     |          | 9      | 9    | 23    |
| Nucleic acid binding | Other            | SF3B2  | IPI00221106  |  |          | 2      |      | 10    |
| Nucleic acid binding | Other            | SF3B14   | IPI00032827  | 3                                      |          | 5      |      | 7     |
| Nucleic acid binding | Other            | SFRS6  | IPI00012345  | 2                                      |          |        |      |       |
| Nucleic acid binding | Other            | SHANK2   | IPI00220490  | 17                                     |          |        |      |       |
| Nucleic acid binding | Other            | SIMILAR TO CGI-55 PROTEIN.   | IPI00185197  |  | 3        | 2      | 4    | 4     |
| Nucleic acid binding | Other            | SNRPF  | IPI00220528  |  |          |        | 3    | 6     |
| Nucleic acid binding | Other            | SRP14  | IPI00293434  | 3                                      | 8        | 9      | 9    | 12    |
| Nucleic acid binding | Other            | SRP19  | IPI00295889  |  | 3        | 2      | 2    | 2     |
| Nucleic acid binding | Other            | SRP68  | IPI00168388  | 5                                      | 3        | 2      | 6    |       |
| Nucleic acid binding | Other            | SRRM1  | IPI00328293  | 9                                      |          | 19     | 32   | 23    |
| Nucleic acid binding | Other            | SRRM2  | IPI0009730   | 9                                      |          | 21     | 34   | 73    |
| Nucleic acid binding | Other            | SSB  | IPI00009032  | 1                                      |          |        | 5    |       |
| Nucleic acid binding | Other            | SSBP1  | IPI00029744  | 3                                      | 2        | 3      | 3    | 10    |
| Nucleic acid binding | Other            | SYNCRIP  | IPI00018140  | 4                                      |          |        | 6    | 7     |
| Nucleic acid binding | Other            | THOC2  | IPI00158615  |  |          | 2      |      |       |
| Nucleic acid binding | Other            | TIA1   | IPI00291398  | 2                                      |          | 7      | 8    | 10    |
| Nucleic acid binding | Other            | TSN  | IPI00018768  | 1                                      | 1        | 2      | 4    | 4     |
| Nucleic acid binding | Other            | TTC14  | IPI00550503  | 10                                     |          | 8      | 11   | 5     |
| Nucleic acid binding | Other            | XPOT   | IPI00306290  | 19                                     | 11       | 23     | 28   | 30    |
| Nucleic acid binding | Other            | ZNF9   | IPI00430812  | 3                                      | 2        | 2      | 1    | 5     |
| Nucleic acid binding | Other            | ZNF291   | IPI00307114  |  |          | 4      |      |       |
| Nucleic acid binding | Other            | ZNF706   | IPI00183657  | 2                                      |          | 1      | 2    | 2     |
| Nucleic acid binding | Other            | ZWILCH   | IPI00329679  |  |          |        |      | 5     |
| Protein binding      | Cytoskeleton     | 14-3-3 zeta human  | IPI00021263  | 88                                     | 4        | 53     | 111  | 26    |
| Protein binding      | Cytoskeleton     | ANK3   | IPI00472779  |  |          |        |      | 1     |
| Protein binding      | Cytoskeleton     | AP3M1  | IPI00032459  | 1                                      |          |        |      |       |
| Protein binding      | Cytoskeleton     | AP3S1  | IPI00014624  |  | 3        |        | 2    | 2     |
| Protein binding      | Cytoskeleton     | ARCN1  | IPI00298520  | 5                                      | 4        | 2      |      | 5     |
| Protein binding      | Cytoskeleton     | ARPC1B   | IPI00005160  |  | 1        |        |      |       |
| Protein binding      | Cytoskeleton     | ARPC5  | IPI00645266  |  | 4        |        |      | 5     |
| Protein binding      | Cytoskeleton     | ARPC5L   | IPI00304459  |  | 1        |        | 1    | 1     |
| Protein binding      | Cytoskeleton     | BASP1  | IPI00299024  | 5                                      | 62       |        |      |       |
| Protein binding      | Cytoskeleton     | CEP192   | IPI00456708  | 9                                      |          | 1      | 1    | 17    |
| Protein binding      | Cytoskeleton     | CKAP4  | IPI00141318  |  | 32       |        |      | 3     |
| Protein binding      | Cytoskeleton     | CLTA   | IPI00014587  | 2                                      | 2        | 1      | 2    |       |
| Protein binding      | Cytoskeleton     | CLTB   | IPI00014589  |  |          |        | 4    |       |
| Protein binding      | Cytoskeleton     | COP21  | IPI00032851  |  |          |        | 3    |       |
| Protein binding      | Cytoskeleton     | CSR1P  | IPI00442073  | 8                                      | 20       |        |      |       |
| Protein binding      | Cytoskeleton     | CSR2P  | IPI00002824  |  | 27       |        |      |       |
| Protein binding      | Cytoskeleton     | CYFIP1   | IPI00644231  | 40                                     | 18       |        | 89   |       |
| Protein binding      | Cytoskeleton     | CYFIP2   | IPI00655548  |  |          | 8      |      | 29    |
| Protein binding      | Cytoskeleton     | EML2   | IPI00015944  | 29                                     |          |        |      |       |
| Protein binding      | Cytoskeleton     | EML3   | IPI00167909  | 10                                     |          |        |      |       |
| Protein binding      | Cytoskeleton     | EML4   | IPI00001466  | 7                                      | 48       |        |      |       |
| Protein binding      | Cytoskeleton     | FLG  | IPI00026256  | 3                                      | 1        | 2      |      | 9     |
| Protein binding      | Cytoskeleton     | HSPG2  | IPI00024284  |  | 5        |        | 13   |       |
| Protein binding      | Cytoskeleton     | IPI00037367.2  | IPI00037367  |  | 3        |        |      |       |
| Protein binding      | Cytoskeleton     | IPI00105140.1  | IPI00105140  |  | 1        |        |      |       |
| Protein binding      | Cytoskeleton     | IPI00332047.2  | IPI00332047  |  | 1        |        |      |       |
| Protein binding      | Cytoskeleton     | ITGA1  | IPI00106698  |  |          |        | 4    | 2     |
| Protein binding      | Cytoskeleton     | LMNB1  | IPI000217975 |  | 3        |        |      | 15    |
| Protein binding      | Cytoskeleton     | LMNB2  | IPI00009771  |  | 3        |        |      | 2     |
| Protein binding      | Cytoskeleton     | LOC387805  | IPI00005162  |  | 6        | 4      | 4    | 7     |
| Protein binding      | Cytoskeleton     | MAP4   | IPI00396171  |  | 7        |        |      |       |
| Protein binding      | Cytoskeleton     | MAP4   | IPI00411375  |  | 3        |        | 1    |       |
| Protein binding      | Cytoskeleton     | MAP7   | IPI00022628  | 7                                      |          |        |      |       |
| Protein binding      | Cytoskeleton     | NCKAP1L  | IPI00604736  |  |          | 10     | 5    | 4     |
| Protein binding      | Cytoskeleton     | NPM1   | IPI00549248  | 7                                      |          |        |      | 1     |
| Protein binding      | Cytoskeleton     | PAXILLIN VARIANT (FRAGMENT).   | IPI00555917  |  |          |        |      |       |
| Protein binding      | Cytoskeleton     | PFN1   | IPI00216691  | 16                                     | 13       | 22     | 19   | 13    |
| Protein binding      | Cytoskeleton     | PFN2   | IPI00107555  | 11                                     | 2        | 8      |      | 6     |
| Protein binding      | Cytoskeleton     | PSTPIP2  | IPI00170554  |  |          |        | 9    |       |
| Protein binding      | Cytoskeleton     | SIMILAR TO 40S RIBOSOMAL PROTEIN S11.  | IPI00078131  |  |          |        |      | 2     |
| Protein binding      | Cytoskeleton     | TAGLN2   | IPI00647915  |  | 55       | 3      | 15   | 11    |
| Protein binding      | Cytoskeleton     | TBCD   | IPI00030774  | 3                                      |          | 11     | 3    |       |
| Protein binding      | Cytoskeleton     | TLN1   | IPI00298994  | 12                                     | 155      | 10     | 42   | 11    |
| Protein binding      | Cytoskeleton     | TUBA1  | IPI00007750  | 5                                      |          |        |      | 3     |
| Protein binding      | Cytoskeleton     | TUBA6  | IPI00387144  | 156                                    | 179      | 221    | 174  | 215   |
| Protein binding      | Cytoskeleton     | TUBAL3   | IPI00015671  |  |          |        |      | 1     |
| Protein binding      | Cytoskeleton     | TUBB   | IPI00011654  | 206                                    | 103      | 308    | 217  | 152   |
| Protein binding      | Cytoskeleton     | TUBB2A   | IPI00013475  | 12                                     | 5        | 5      | 4    |       |
| Protein binding      | Cytoskeleton     | TUBB3  | IPI00152453  | 3                                      | 1        |        | 1    | 4     |
| Protein binding      | Cytoskeleton     | TUBB4  | IPI00655896  | 28                                     | 111      | 24     | 32   | 30    |
| Protein binding      | Cytoskeleton     | TUBB6  | IPI00034283  | 4                                      | 4        |        | 6    |       |
| Protein binding      | Cytoskeleton     | TUBGCP2  | IPI00029705  | 7                                      |          | 5      |      | 4     |
| Protein binding      | Cytoskeleton     | TUBGCP3  | IPI00033516  | 5                                      |          |        |      | 2     |
| Protein binding      | Cytoskeleton     | TUBGCP5  | IPI00045492  |  |          | 1      |      |       |
| Protein binding      | Enzyme inhibitor | A2M  | IPI00478003  |  | 156      |        |      |       |
| Protein binding      | Enzyme inhibitor | AGT  | IPI00032220  |  | 4        |        |      |       |
| Protein binding      | Enzyme inhibitor | AHRR   | IPI00025277  | 2                                      | 14       | 18     | 24   | 15    |
| Protein binding      | Enzyme inhibitor | AMBP   | IPI00022426  |  | 4        |        |      |       |
| Protein binding      | Enzyme inhibitor | ANGPTL3  | IPI00004957  |  |          |        |      | 1     |
| Protein binding      | Enzyme inhibitor | ANP32E   | IPI00165393  | 6                                      |          | 6      |      | 6     |
| Protein binding      | Enzyme inhibitor | ANXA1  | IPI00218918  |  | 278      |        | 2    | 4     |
| Protein binding      | Enzyme inhibitor | ANXA2  | IPI00418169  | 19                                     | 12       | 1      | 11   | 5     |
| Protein binding      | Enzyme inhibitor | ANXA3  | IPI00024095  |  | 3        |        |      |       |
| Protein binding      | Enzyme inhibitor | ANXA5  | IPI00329801  |  | 18       |        |      |       |
| Protein binding      | Enzyme inhibitor | Axin1  | IPI00204189  |  |          | 5      | 1    |       |
| Protein binding      | Enzyme inhibitor | BIRC5  | IPI00218095  |  |          |        |      | 2     |
| Protein binding      | Enzyme inhibitor | BIRC6  | IPI00299635  | 9                                      |          |        | 12   | 20    |
| Protein binding      | Enzyme inhibitor | C3   | IPI00164623  |  | 33       |        |      |       |
| Protein binding      | Enzyme inhibitor | C4A  | IPI00719024  |  | 16       |        |      |       |
| Protein binding      | Enzyme inhibitor | C5   | IPI00032291  |  | 4        |        |      |       |
| Protein binding      | Enzyme inhibitor | CNOT1  | IPI00166010  | 1                                      |          | 27     | 10   | 13    |
| Protein binding      | Enzyme inhibitor | COL6A3   | IPI00022200  |  | 7        |        |      |       |
| Protein binding      | Enzyme inhibitor | CST3   | IPI00032293  |  | 2        |        |      |       |
| Protein binding      | Enzyme inhibitor | CSTA   | IPI00032325  | 4                                      | 4        | 1      | 5    | 9     |
| Protein binding      | Enzyme inhibitor | CSTB   | IPI00021828  | 6                                      | 2        | 9      |      | 3     |
| Protein binding      | Enzyme inhibitor | FSTL3  | IPI00025155  | 1                                      | 1        |        |      |       |

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| Protein family  | Subfamily                 | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|-----------------|---------------------------|--|--------------|--|----------|--------|------|-------|
|                 |                           |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Protein binding | Enzyme inhibitor          | HSPA5  | IPI00003362  | 132                                    | 102      | 68     | 71   | 109   |
| Protein binding | Enzyme inhibitor          | IGBP1  | IPI00019148  |  |          |        |      | 1     |
| Protein binding | Enzyme inhibitor          | ITIH1  | IPI00292530  |  | 2        |        |      |       |
| Protein binding | Enzyme inhibitor          | ITIH4  | IPI00294193  |  | 1        |        |      |       |
| Protein binding | Enzyme inhibitor          | KNG1   | IPI00032328  |  | 18       |        |      |       |
| Protein binding | Enzyme inhibitor          | NF1  | IPI00299512  | 13                                     | 4        | 12     | 27   | 21    |
| Protein binding | Enzyme inhibitor          | PPP2R1A  | IPI00419307  | 21                                     | 13       | 19     | 21   | 77    |
| Protein binding | Enzyme inhibitor          | PPP2R2A  | IPI00332511  | 5                                      |          |        | 5    | 10    |
| Protein binding | Enzyme inhibitor          | PPP4R2   | IPI00103654  | 16                                     | 8        | 30     |      | 25    |
| Protein binding | Enzyme inhibitor          | PROTEIN PHOSPHATASE 4 REGULATORY SUBUNIT 2                                     | IPI00675154  |  |          |        |      | 3     |
| Protein binding | Enzyme inhibitor          | RNH1   | IPI00550069  |  |          |        | 1    |       |
| Protein binding | Enzyme inhibitor          | SEL1L  | IPI00002790  | 1                                      | 6        | 2      |      | 2     |
| Protein binding | Enzyme inhibitor          | SET  | IPI00072377  | 17                                     | 3        | 4      |      | 8     |
| Protein binding | Enzyme inhibitor          | SET  | IPI00301311  |  | 2        |        | 4    | 2     |
| Protein binding | Enzyme inhibitor          | STS-1  | IPI00154910  |  |          | 62     | 186  | 40    |
| Protein binding | Enzyme inhibitor          | TFPI2  | IPI00009198  |  | 18       |        |      |       |
| Protein binding | Enzyme inhibitor          | TIMP2  | IPI00027166  |  | 3        |        |      |       |
| Protein binding | Enzyme inhibitor          | TIMP3  | IPI00218247  |  | 3        |        |      |       |
| Protein binding | Enzyme inhibitor          | TRAF1  | IPI00011549  | 2                                      |          |        |      | 26    |
| Protein binding | GTPase regulator          | ABR  | IPI00030389  |  |          |        |      | 2     |
| Protein binding | GTPase regulator          | ARFGEF1  | IPI00002188  | 3                                      |          | 3      |      | 10    |
| Protein binding | GTPase regulator          | ARFGEF2  | IPI00002186  | 42                                     |          | 12     |      | 26    |
| Protein binding | GTPase regulator          | ARHGDIA  | IPI00003815  |  | 3        | 1      |      |       |
| Protein binding | GTPase regulator          | ARHGDIB  | IPI00003817  |  | 1        | 3      |      | 3     |
| Protein binding | GTPase regulator          | ARHGEF2  | IPI00643259  |  |          |        | 1    |       |
| Protein binding | GTPase regulator          | ARHGEF18   | IPI00179437  |  |          | 1      |      |       |
| Protein binding | GTPase regulator          | ARL2   | IPI00003326  |  | 2        |        | 1    |       |
| Protein binding | GTPase regulator          | CENTD1   | IPI00292471  | 41                                     |          | 13     | 2    | 7     |
| Protein binding | GTPase regulator          | CENTD2   | IPI00646915  |  |          |        | 6    |       |
| Protein binding | GTPase regulator          | CENTD3   | IPI00103380  |  |          |        | 48   |       |
| Protein binding | GTPase regulator          | CTAGE6   | IPI00470926  | 2                                      |          |        |      |       |
| Protein binding | GTPase regulator          | DNMBP  | IPI00174025  |  |          |        |      | 1     |
| Protein binding | GTPase regulator          | DOCK2  | IPI00022449  |  |          | 56     | 13   | 30    |
| Protein binding | GTPase regulator          | DOCK8  | IPI00552545  |  |          |        |      | 20    |
| Protein binding | GTPase regulator          | EIF2B1   | IPI00221300  |  |          |        | 1    | 1     |
| Protein binding | GTPase regulator          | EIF2B4   | IPI00220232  | 1                                      |          |        |      | 1     |
| Protein binding | GTPase regulator          | EIF2B5   | IPI00011898  |  |          |        |      | 3     |
| Protein binding | GTPase regulator          | EPS8L1   | IPI00301250  |  | 7        |        |      |       |
| Protein binding | GTPase regulator          | EVISL  | IPI00060473  |  | 1        |        | 3    | 4     |
| Protein binding | GTPase regulator          | FARP1  | IPI00450955  |  | 3        |        |      |       |
| Protein binding | GTPase regulator          | FGD3   | IPI00384357  |  | 2        |        |      |       |
| Protein binding | GTPase regulator          | GAPVD1   | IPI00292753  | 149                                    | 24       | 242    | 187  | 234   |
| Protein binding | GTPase regulator          | GBF1   | IPI00021954  | 9                                      |          | 3      |      | 18    |
| Protein binding | GTPase regulator          | GBL  | IPI00549974  |  | 7        |        |      |       |
| Protein binding | GTPase regulator          | GDI2   | IPI00031461  |  |          |        | 5    |       |
| Protein binding | GTPase regulator          | GNB1   | IPI00026268  |  | 3        |        | 2    | 2     |
| Protein binding | GTPase regulator          | GNB1L  | IPI00107339  |  |          |        | 12   | 3     |
| Protein binding | GTPase regulator          | GNB2   | IPI00003348  |  | 6        | 3      |      |       |
| Protein binding | GTPase regulator          | GNB4   | IPI00012451  |  |          |        |      | 4     |
| Protein binding | GTPase regulator          | HERC2  | IPI00005826  |  |          |        | 13   |       |
| Protein binding | GTPase regulator          | IQGAP1   | IPI00009342  | 59                                     | 71       | 7      | 9    | 20    |
| Protein binding | GTPase regulator          | IQGAP2   | IPI00299048  |  | 55       | 3      | 7    |       |
| Protein binding | GTPase regulator          | KIAA1244   | IPI00179164  | 4                                      |          |        |      |       |
| Protein binding | GTPase regulator          | LOC389842  | IPI00399212  | 2                                      |          |        | 10   | 5     |
| Protein binding | GTPase regulator          | PTPLA1   | IPI00008998  | 14                                     | 18       | 4      | 7    | 14    |
| Protein binding | GTPase regulator          | RAB3-GAP150  | IPI00554590  | 4                                      |          | 4      |      |       |
| Protein binding | GTPase regulator          | RANBP2   | IPI00221325  | 9                                      |          | 3      |      | 32    |
| Protein binding | GTPase regulator          | RANBP5   | IPI00329200  | 31                                     | 7        | 36     | 24   | 65    |
| Protein binding | GTPase regulator          | RANBP6   | IPI00514622  |  |          |        |      | 4     |
| Protein binding | GTPase regulator          | RANBP10  | IPI00039864  | 1                                      |          |        |      |       |
| Protein binding | GTPase regulator          | RANGAP1  | IPI00411570  |  |          |        |      | 5     |
| Protein binding | GTPase regulator          | RAP1GDS1   | IPI00607591  |  |          | 1      |      |       |
| Protein binding | GTPase regulator          | RASA1  | IPI00026262  |  | 19       |        | 2    |       |
| Protein binding | GTPase regulator          | RCC1   | IPI00001661  |  |          |        | 4    |       |
| Protein binding | GTPase regulator          | RGS13  | IPI00024710  |  |          |        |      | 6     |
| Protein binding | GTPase regulator          | RIN1   | IPI00014454  | 47                                     |          |        |      |       |
| Protein binding | GTPase regulator          | TBC1D1   | IPI00164610  |  |          |        |      | 1     |
| Protein binding | GTPase regulator          | TBC1D4   | IPI00220901  | 3                                      |          |        |      | 43    |
| Protein binding | GTPase regulator          | TBC1D15  | IPI00154645  |  |          | 2      |      |       |
| Protein binding | GTPase regulator          | TSC2   | IPI00028493  |  |          | 17     |      | 8     |
| Protein binding | GTPase regulator          | VAV1   | IPI00011696  |  |          | 32     | 5    | 3     |
| Protein binding | GTPase regulator          | VAV3   | IPI00299763  |  |          | 6      |      |       |
| Protein binding | GTPase regulator          | WAS  | IPI00001545  |  |          |        |      | 5     |
| Protein binding | Kinase regulatory subunit | AHSG   | IPI00022431  |  | 7        |        |      |       |
| Protein binding | Kinase regulatory subunit | AZ12   | IPI00008255  | 108                                    | 68       | 153    | 135  | 129   |
| Protein binding | Kinase regulatory subunit | CABLES1  | IPI00291427  | 22                                     |          |        |      | 32    |
| Protein binding | Kinase regulatory subunit | CABLES2  | IPI00030512  |  |          | 27     |      | 3     |
| Protein binding | Kinase regulatory subunit | CABLES2  | IPI00552732  |  |          |        |      | 1     |
| Protein binding | Kinase regulatory subunit | CCNH   | IPI00021305  | 63                                     | 10       | 57     | 100  | 92    |
| Protein binding | Kinase regulatory subunit | CCNI   | IPI00028541  | 12                                     |          | 21     | 26   | 53    |
| Protein binding | Kinase regulatory subunit | CDC16  | IPI00022091  | 24                                     |          | 30     | 13   | 15    |
| Protein binding | Kinase regulatory subunit | CDC26  | IPI00169387  |  |          |        | 6    |       |
| Protein binding | Kinase regulatory subunit | CDC27  | IPI00294575  | 35                                     |          | 6      | 9    | 15    |
| Protein binding | Kinase regulatory subunit | CDK5R1   | IPI00014316  |  |          | 14     |      |       |
| Protein binding | Kinase regulatory subunit | CDKN2A   | IPI00001560  | 9                                      |          |        |      |       |
| Protein binding | Kinase regulatory subunit | CKS1B  | IPI00015104  | 2                                      |          |        |      |       |
| Protein binding | Kinase regulatory subunit | CSNK2B   | IPI00010865  | 40                                     | 62       | 136    | 101  | 132   |
| Protein binding | Kinase regulatory subunit | GMFG   | IPI00028414  |  |          |        |      | 2     |
| Protein binding | Kinase regulatory subunit | IKBKAP   | IPI00293735  | 25                                     |          | 20     |      | 11    |
| Protein binding | Kinase regulatory subunit | MADD   | IPI00103536  |  |          |        |      | 2     |
| Protein binding | Kinase regulatory subunit | MAP2K1IP1  | IPI00030919  |  |          |        |      | 9     |
| Protein binding | Kinase regulatory subunit | PAG1   | IPI00020464  |  |          | 120    |      | 278   |
| Protein binding | Kinase regulatory subunit | PIK3R1   | IPI00021448  |  | 6        |        | 14   | 3     |
| Protein binding | Kinase regulatory subunit | PIK3R2   | IPI00011736  |  |          |        | 19   |       |
| Protein binding | Kinase regulatory subunit | PRKAB2   | IPI00013905  | 123                                    | 78       | 56     | 33   | 59    |
| Protein binding | Kinase regulatory subunit | PRKAG2   | IPI00005367  | 28                                     | 99       | 12     | 17   | 36    |
| Protein binding | Kinase regulatory subunit | PRKAR1A  | IPI00021831  |  |          |        |      | 2     |
| Protein binding | Kinase regulatory subunit | Rictor   | IPI00455500  | 14                                     |          |        |      | 2     |
| Protein binding | Kinase regulatory subunit | SFN  | IPI00013890  | 19                                     |          |        |      | 3     |
| Protein binding | Kinase regulatory subunit | TBKBP1   | IPI00006064  | 190                                    | 11       | 53     | 158  | 63    |
| Protein binding | Kinase regulatory subunit | YWHAG  | IPI00220642  | 86                                     | 25       | 37     | 82   | 63    |
| Protein binding | Kinase regulatory subunit | YWHAH  | IPI00216319  | 26                                     | 19       | 22     | 38   | 42    |
| Protein binding | Receptor binding          | ACTN1  | IPI00013508  |  | 7        | 2      | 1    |       |
| Protein binding | Receptor binding          | ACTN4  | IPI00013808  |  | 32       |        | 30   |       |
| Protein binding | Receptor binding          | AKAP9  | IPI00220628  |  |          |        |      | 11    |
| Protein binding | Receptor binding          | ARTS-1   | IPI00165949  |  | 5        | 3      | 4    |       |
| Protein binding | Receptor binding          | AZGP1  | IPI00166729  | 2                                      | 1        | 3      |      | 1     |
| Protein binding | Receptor binding          | BCAP31   | IPI00218200  |  | 5        |        |      |       |
| Protein binding | Receptor binding          | BID  | IPI00420084  |  |          | 3      | 1    |       |
| Protein binding | Receptor binding          | BID  | IPI00472003  |  |          |        |      | 2     |

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| Protein family  | Subfamily            | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|-----------------|----------------------|--|--------------|--|----------|--------|------|-------|
|                 |                      |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Protein binding | Receptor binding     | BST2   | IPI00026241  | 2                                      | 3        | 3      |      | 7     |
| Protein binding | Receptor binding     | C20orf14   | IPI00305068  |  |          |        | 1    |       |
| Protein binding | Receptor binding     | CCNE1  | IPI00031077  | 11                                     |          |        | 7    | 4     |
| Protein binding | Receptor binding     | CD74   | IPI00022933  |  |          |        |      | 11    |
| Protein binding | Receptor binding     | CMTM6  | IPI00015801  |  |          | 1      |      | 3     |
| Protein binding | Receptor binding     | CSH2   | IPI00025785  |  | 86       |        |      |       |
| Protein binding | Receptor binding     | CTNNB1   | IPI00017292  |  | 10       |        |      |       |
| Protein binding | Receptor binding     | DIAPH1   | IPI00030876  | 10                                     | 1        | 12     |      |       |
| Protein binding | Receptor binding     | DOK1   | IPI00015287  |  |          | 4      | 12   | 9     |
| Protein binding | Receptor binding     | DOK2   | IPI00022602  |  | 2        | 2      | 34   |       |
| Protein binding | Receptor binding     | EBI3   | IPI00034088  |  | 3        |        |      |       |
| Protein binding | Receptor binding     | ENSA   | IPI00410177  | 1                                      |          |        |      |       |
| Protein binding | Receptor binding     | FAM3C  | IPI00334282  |  | 2        |        |      |       |
| Protein binding | Receptor binding     | FGF2   | IPI00154603  |  |          |        | 17   |       |
| Protein binding | Receptor binding     | FHL2   | IPI00396967  |  | 3        |        |      |       |
| Protein binding | Receptor binding     | FYB  | IPI00073110  |  |          | 93     |      |       |
| Protein binding | Receptor binding     | GABARAPL2  | IPI00026358  |  | 2        |        |      | 4     |
| Protein binding | Receptor binding     | GH1  | IPI00000890  |  | 2        | 8      |      | 2     |
| Protein binding | Receptor binding     | GLG1   | IPI00414717  |  | 2        |        |      |       |
| Protein binding | Receptor binding     | GNB2L1   | IPI00641950  | 7                                      | 4        | 3      | 2    | 6     |
| Protein binding | Receptor binding     | GPI  | IPI00027497  | 2                                      |          |        | 2    |       |
| Protein binding | Receptor binding     | GRB2   | IPI00021327  |  | 6        | 6      | 152  | 7     |
| Protein binding | Receptor binding     | HDBG   | IPI00514127  | 4                                      |          |        |      |       |
| Protein binding | Receptor binding     | HYPOTHETICAL PROTEIN.  | IPI00655954  |  | 2        |        |      |       |
| Protein binding | Receptor binding     | JAG2   | IPI00032416  | 1                                      |          |        |      |       |
| Protein binding | Receptor binding     | KL   | IPI00295265  |  | 29       |        |      |       |
| Protein binding | Receptor binding     | LAMA2  | IPI000218725 |  | 3        |        |      |       |
| Protein binding | Receptor binding     | LIME1  | IPI00646802  |  |          |        |      | 90    |
| Protein binding | Receptor binding     | MIF  | IPI00293276  | 173                                    | 363      | 285    | 251  | 242   |
| Protein binding | Receptor binding     | MSN  | IPI00514912  | 14                                     | 9        | 17     | 22   |       |
| Protein binding | Receptor binding     | NCK1   | IPI00028065  |  |          |        | 1    |       |
| Protein binding | Receptor binding     | P11  | IPI00006995  |  | 6        |        |      |       |
| Protein binding | Receptor binding     | PDGFC  | IPI00099977  |  | 1        |        |      |       |
| Protein binding | Receptor binding     | PSMC5  | IPI00023919  | 3                                      |          | 1      | 4    | 3     |
| Protein binding | Receptor binding     | REEP5  | IPI00024670  |  | 9        |        |      |       |
| Protein binding | Receptor binding     | REEP6  | IPI00646963  |  |          |        | 3    |       |
| Protein binding | Receptor binding     | RETN   | IPI00006988  |  | 1        |        |      |       |
| Protein binding | Receptor binding     | SCYE1  | IPI00006252  | 9                                      |          |        |      | 3     |
| Protein binding | Receptor binding     | SNW1   | IPI00013830  |  |          |        | 2    | 1     |
| Protein binding | Receptor binding     | SOC2   | IPI00033944  |  |          |        |      |       |
| Protein binding | Receptor binding     | SRI  | IPI00027175  |  | 10       |        | 3    | 6     |
| Protein binding | Receptor binding     | STOML2   | IPI00477195  | 14                                     | 3        | 3      | 3    | 11    |
| Protein binding | Receptor binding     | TGFB1  | IPI00018219  |  | 6        |        |      |       |
| Protein binding | Receptor binding     | TMED1  | IPI00009976  |  | 1        |        |      |       |
| Protein binding | Receptor binding     | TOLLIP   | IPI00654582  | 2                                      |          |        |      |       |
| Protein binding | Receptor binding     | TRA1   | IPI00027230  | 14                                     | 77       |        | 16   |       |
| Protein binding | Receptor binding     | TRAP1  | IPI00030275  | 4                                      |          | 3      | 4    |       |
| Protein binding | Receptor binding     | TRIP6  | IPI00301561  |  |          |        | 1    |       |
| Protein binding | Receptor binding     | TXLNA  | IPI00470779  | 7                                      |          | 9      | 11   | 4     |
| Protein binding | Receptor binding     | YARS   | IPI00007074  |  |          |        | 4    |       |
| Protein binding | Enzyme activator     | AHSA1  | IPI00030706  | 2                                      |          |        |      | 4     |
| Protein binding | Enzyme activator     | ALOX5AP  | IPI00022975  |  |          |        |      | 2     |
| Protein binding | Enzyme activator     | ARL1   | IPI000219518 |  | 4        | 2      |      | 6     |
| Protein binding | Enzyme activator     | CACYBP   | IPI00395627  | 15                                     |          | 18     | 19   | 10    |
| Protein binding | Enzyme activator     | DBNL   | IPI00101968  |  | 10       |        |      | 2     |
| Protein binding | Enzyme activator     | FBLN1  | IPI00296534  |  | 39       |        |      |       |
| Protein binding | Enzyme activator     | FZR1   | IPI00383919  | 12                                     |          |        | 7    | 5     |
| Protein binding | Enzyme activator     | GM2A   | IPI00018236  |  |          |        |      | 4     |
| Protein binding | Enzyme activator     | MAP3K7IP1  | IPI00019459  |  |          |        |      | 4     |
| Protein binding | Enzyme activator     | MRCL3  | IPI00220573  |  | 1        |        |      | 5     |
| Protein binding | Enzyme activator     | PLAA   | IPI00550517  |  |          | 2      | 3    | 4     |
| Protein binding | Enzyme activator     | PSME1  | IPI00479722  | 17                                     | 17       | 18     | 10   | 26    |
| Protein binding | Enzyme activator     | PSME2  | IPI00384051  | 9                                      | 7        | 14     | 7    | 22    |
| Protein binding | Enzyme activator     | PSME3  | IPI00219445  | 9                                      |          | 4      | 1    | 12    |
| Protein binding | Enzyme activator     | PYCARD   | IPI00001699  |  |          |        | 3    |       |
| Protein binding | Enzyme activator     | RFC1   | IPI00375358  |  |          |        |      | 2     |
| Protein binding | Enzyme activator     | TIFA   | IPI00514147  |  |          |        |      | 4     |
| Protein binding | Proteinase inhibitor | IPI00098880.1  | IPI00098880  |  |          |        |      | 1     |
| Protein binding | Proteinase inhibitor | SERPINA1   | IPI00553177  |  | 28       |        |      |       |
| Protein binding | Proteinase inhibitor | SERPINB1   | IPI00027444  | 8                                      |          |        | 5    | 4     |
| Protein binding | Proteinase inhibitor | SERPINB2   | IPI00007117  |  | 53       |        |      |       |
| Protein binding | Proteinase inhibitor | SERPINB3   | IPI00022204  |  |          |        |      | 16    |
| Protein binding | Proteinase inhibitor | SERPINB6   | IPI00413451  |  | 6        |        | 2    |       |
| Protein binding | Proteinase inhibitor | SERPINB9   | IPI00032139  |  | 8        |        | 11   | 16    |
| Protein binding | Proteinase inhibitor | SERPINB12  | IPI00643202  | 3                                      | 3        |        |      | 3     |
| Protein binding | Proteinase inhibitor | SERPINC1   | IPI00032179  |  | 4        |        |      |       |
| Protein binding | Other                | XTP3TPA  | IPI00012197  | 8                                      | 8        | 27     | 58   | 110   |
| Protein binding | Other                | 39326  | IPI00033025  |  | 4        | 2      | 3    |       |
| Protein binding | Other                | 39692  | IPI00022082  |  | 1        |        |      |       |
| Protein binding | Other                | 40787  | IPI00019376  |  | 1        |        | 1    |       |
| Protein binding | Other                | 42248  | IPI00030877  | 2                                      | 2        | 2      |      | 3     |
| Protein binding | Other                | AB1  | IPI00431025  | 4                                      |          |        | 20   |       |
| Protein binding | Other                | ACTA2  | IPI00640698  |  | 43       | 3      | 6    | 3     |
| Protein binding | Other                | ACTG1  | IPI00021439  | 36                                     | 73       | 35     | 124  | 99    |
| Protein binding | Other                | ACTL6A   | IPI00003627  | 1                                      |          |        | 4    | 3     |
| Protein binding | Other                | ACTR2  | IPI00470573  |  | 2        |        | 2    | 5     |
| Protein binding | Other                | ACTR3  | IPI00028091  |  |          |        | 4    | 4     |
| Protein binding | Other                | ADRM1  | IPI00033030  | 3                                      |          |        |      | 2     |
| Protein binding | Other                | AHNAK  | IPI00021812  | 28                                     | 62       | 5      | 54   | 3     |
| Protein binding | Other                | AKAP8L   | IPI00297455  | 4                                      |          |        | 8    | 3     |
| Protein binding | Other                | ALB  | IPI00022434  | 12                                     | 441      | 7      |      | 8     |
| Protein binding | Other                | ANKRD13  | IPI00217831  |  |          |        |      | 2     |
| Protein binding | Other                | ANKRD28  | IPI00477505  |  |          | 10     | 15   | 1     |
| Protein binding | Other                | ANKRD44  | IPI00395999  | 1                                      |          | 9      | 5    | 7     |
| Protein binding | Other                | AP1B1  | IPI00328257  |  | 6        |        | 3    | 9     |
| Protein binding | Other                | AP1M1  | IPI00032516  |  |          |        | 3    |       |
| Protein binding | Other                | AP2B1  | IPI00220991  | 71                                     | 28       |        | 102  | 39    |
| Protein binding | Other                | AP15   | IPI00555572  | 2                                      |          |        |      |       |
| Protein binding | Other                | ARF6   | IPI00015920  |  | 4        |        |      | 3     |
| Protein binding | Other                | ARL6IP5  | IPI00007426  |  | 6        |        |      |       |
| Protein binding | Other                | ARMC8  | IPI00332835  | 1                                      |          |        |      |       |
| Protein binding | Other                | ARPC4  | IPI00554811  |  | 7        |        | 2    | 3     |
| Protein binding | Other                | ASF1A  | IPI00292168  |  |          | 2      | 2    |       |
| Protein binding | Other                | AVEN   | IPI00006904  |  |          | 1      |      |       |
| Protein binding | Other                | AXIN1  | IPI00005188  | 4                                      |          | 5      | 8    | 5     |
| Protein binding | Other                | BAG2   | IPI00000643  | 7                                      |          | 5      | 9    | 5     |
| Protein binding | Other                | BAX  | IPI00444945  |  |          |        |      | 5     |
| Protein binding | Other                | BET1   | IPI00470941  |  | 1        | 2      |      | 3     |
| Protein binding | Other                | BIRC2  | IPI00013418  |  |          | 3      | 10   | 8     |
| Protein binding | Other                | BIRC3  | IPI00013409  | 2                                      |          |        |      | 68    |

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| Protein family  | Subfamily | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|-----------------|-----------|--|--------------|--|----------|--------|------|-------|
|                 |           |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Protein binding | Other     | BLOC1S1  | IPI00020319  |  |          |        |      | 2     |
| Protein binding | Other     | BUB3   | IPI00013468  | 7                                      |          |        | 4    | 5     |
| Protein binding | Other     | C1orf19  | IPI00514682  |  |          |        | 1    |       |
| Protein binding | Other     | C1orf73  | IPI00550858  | 2                                      |          | 4      |      | 1     |
| Protein binding | Other     | C1QBP  | IPI00014230  | 4                                      |          | 3      | 3    | 7     |
| Protein binding | Other     | C6orf82  | IPI00034319  |  |          |        |      | 1     |
| Protein binding | Other     | C9orf32  | IPI00549389  |  |          |        |      | 3     |
| Protein binding | Other     | C9orf89  | IPI00336153  |  | 2        | 4      |      | 6     |
| Protein binding | Other     | C15orf23   | IPI00294680  | 1                                      |          |        |      |       |
| Protein binding | Other     | C20orf18   | IPI00010266  |  |          |        |      | 11    |
| Protein binding | Other     | CALCOCO2   | IPI00102070  | 19                                     |          | 26     |      | 15    |
| Protein binding | Other     | CALD1  | IPI00014516  |  | 59       |        |      |       |
| Protein binding | Other     | CALM2  | IPI00075248  | 7                                      | 9        | 9      | 17   | 8     |
| Protein binding | Other     | CAND1  | IPI00100160  | 10                                     | 19       | 28     | 10   | 23    |
| Protein binding | Other     | CAP1   | IPI00639931  |  | 7        |        | 4    |       |
| Protein binding | Other     | CAPG   | IPI00027341  | 1                                      | 1        |        |      |       |
| Protein binding | Other     | CAPZA1   | IPI00005969  | 4                                      | 12       | 9      | 15   | 11    |
| Protein binding | Other     | CAPZA2   | IPI00026182  |  | 6        |        |      | 3     |
| Protein binding | Other     | CAPZB  | IPI00218782  | 3                                      | 19       | 17     | 12   | 20    |
| Protein binding | Other     | CARHSP1  | IPI00304409  |  |          |        | 3    |       |
| Protein binding | Other     | CAV1   | IPI00009236  |  | 4        |        |      | 3     |
| Protein binding | Other     | CBX3   | IPI00297579  |  | 2        | 4      | 2    | 3     |
| Protein binding | Other     | CCNA2  | IPI00022865  | 26                                     |          |        | 12   | 11    |
| Protein binding | Other     | CCNB1  | IPI00294696  | 51                                     |          | 45     | 92   | 12    |
| Protein binding | Other     | CCNB2  | IPI00028266  | 3                                      |          | 5      | 3    | 6     |
| Protein binding | Other     | CCND3  | IPI00025817  |  |          | 3      |      | 6     |
| Protein binding | Other     | CCNE2  | IPI00014085  |  |          |        |      | 1     |
| Protein binding | Other     | CCNK   | IPI00431127  | 7                                      |          | 14     | 5    | 6     |
| Protein binding | Other     | CCNT1  | IPI00030247  | 57                                     |          | 45     | 83   | 111   |
| Protein binding | Other     | CCNT2  | IPI00030313  | 23                                     |          |        | 12   | 6     |
| Protein binding | Other     | CCT2   | IPI00297779  | 10                                     | 8        | 13     | 11   | 5     |
| Protein binding | Other     | CCT3   | IPI00553185  | 10                                     | 2        | 12     | 14   | 30    |
| Protein binding | Other     | CCT4   | IPI00302927  | 14                                     | 5        | 3      | 5    | 17    |
| Protein binding | Other     | CCT5   | IPI00010720  | 13                                     | 5        | 8      | 13   | 19    |
| Protein binding | Other     | CCT6A  | IPI00027626  | 12                                     | 6        | 15     | 7    | 21    |
| Protein binding | Other     | CCT7   | IPI00018465  | 15                                     |          | 18     | 7    | 17    |
| Protein binding | Other     | CD81   | IPI00000190  |  | 1        |        |      | 3     |
| Protein binding | Other     | CDC37  | IPI00013122  | 5                                      | 5        | 3      | 19   | 21    |
| Protein binding | Other     | CDC45L   | IPI00025695  |  |          | 2      |      | 14    |
| Protein binding | Other     | CDC73  | IPI00300659  | 5                                      |          |        | 5    | 14    |
| Protein binding | Other     | CDH1   | IPI00025861  |  | 2        |        |      | 3     |
| Protein binding | Other     | CEP57  | IPI00465200  |  |          |        | 4    | 12    |
| Protein binding | Other     | ch-TOG   | IPI00028275  |  | 2        |        |      | 5     |
| Protein binding | Other     | CHCHD2   | IPI00007673  |  |          |        |      | 4     |
| Protein binding | Other     | CHCHD3   | IPI00015833  | 14                                     | 27       | 30     | 7    | 24    |
| Protein binding | Other     | CHCHD6   | IPI00031622  | 6                                      |          | 7      | 2    |       |
| Protein binding | Other     | CIB1   | IPI00018451  |  | 2        |        |      | 1     |
| Protein binding | Other     | CKAP1  | IPI00293126  |  |          | 1      |      |       |
| Protein binding | Other     | CLTC   | IPI00024067  | 53                                     | 41       | 33     | 38   | 45    |
| Protein binding | Other     | CNAP1  | IPI00299524  | 7                                      |          | 16     |      | 13    |
| Protein binding | Other     | CNN2   | IPI00015262  | 8                                      |          | 7      | 4    | 25    |
| Protein binding | Other     | CNN3   | IPI00216682  |  | 2        |        |      |       |
| Protein binding | Other     | COG4   | IPI00149849  |  | 1        |        | 1    | 1     |
| Protein binding | Other     | COG5   | IPI00377050  |  |          | 2      | 5    | 2     |
| Protein binding | Other     | COG7   | IPI00164005  | 3                                      |          | 7      | 5    | 4     |
| Protein binding | Other     | COL6A1   | IPI00291136  |  | 10       |        |      |       |
| Protein binding | Other     | COL6A2   | IPI00304840  |  | 4        |        |      |       |
| Protein binding | Other     | COL14A1  | IPI00176193  |  | 53       |        |      |       |
| Protein binding | Other     | COPB   | IPI00295851  | 33                                     | 26       | 21     | 24   | 32    |
| Protein binding | Other     | CORO1A   | IPI00010133  |  |          | 6      |      | 5     |
| Protein binding | Other     | CORO1C   | IPI00008453  |  | 1        |        | 8    |       |
| Protein binding | Other     | CPSF1  | IPI00026219  | 13                                     |          | 15     | 3    | 15    |
| Protein binding | Other     | CPSF3L   | IPI00063404  |  |          | 1      |      |       |
| Protein binding | Other     | CTNNA1   | IPI00473136  | 9                                      | 8        |        |      |       |
| Protein binding | Other     | CTNND1   | IPI00182540  |  | 7        |        |      |       |
| Protein binding | Other     | CTTN   | IPI00062884  | 11                                     | 4        |        |      |       |
| Protein binding | Other     | CUL1   | IPI00014310  | 9                                      |          |        |      |       |
| Protein binding | Other     | CUL2   | IPI00014311  |  |          | 1      |      |       |
| Protein binding | Other     | CUL3   | IPI00014312  |  |          | 9      | 1    | 4     |
| Protein binding | Other     | DAAM1  | IPI00337800  |  |          |        |      | 5     |
| Protein binding | Other     | DAG1   | IPI00028911  |  | 1        |        |      |       |
| Protein binding | Other     | DCTN1  | IPI00029485  | 7                                      |          | 18     |      | 14    |
| Protein binding | Other     | DCTN3  | IPI00027014  |  | 2        |        |      | 1     |
| Protein binding | Other     | DEPDC6   | IPI00290560  |  |          |        |      | 3     |
| Protein binding | Other     | DIABLO   | IPI00008418  |  | 2        |        | 4    | 9     |
| Protein binding | Other     | DKFZP564A022 PROTEIN.  | IPI00384679  |  | 4        |        |      | 1     |
| Protein binding | Other     | DMXL1  | IPI00294728  |  |          |        |      | 6     |
| Protein binding | Other     | DNAJA2   | IPI00032406  | 7                                      |          | 4      | 6    | 8     |
| Protein binding | Other     | DNAJA3   | IPI00294610  |  |          |        |      | 5     |
| Protein binding | Other     | DNAJA5   | IPI00413366  | 1                                      |          |        |      |       |
| Protein binding | Other     | DNAJB6   | IPI00556073  | 1                                      |          |        |      |       |
| Protein binding | Other     | DNAJB11  | IPI00008454  |  |          |        |      | 4     |
| Protein binding | Other     | DNAJB12  | IPI00014400  |  |          |        |      | 3     |
| Protein binding | Other     | DNAJC7   | IPI00329629  | 6                                      |          |        |      | 11    |
| Protein binding | Other     | DNAJC12  | IPI00029149  | 3                                      |          |        |      |       |
| Protein binding | Other     | DNAJC14  | IPI00396326  | 3                                      |          | 3      | 6    | 2     |
| Protein binding | Other     | DNAJC19  | IPI00304306  | 5                                      | 1        |        | 4    | 2     |
| Protein binding | Other     | DPT  | IPI00292130  |  | 2        |        |      |       |
| Protein binding | Other     | DRG1   | IPI00031836  |  |          |        | 1    |       |
| Protein binding | Other     | DRIM   | IPI00004970  | 5                                      |          |        |      | 23    |
| Protein binding | Other     | DSC1   | IPI00386975  |  |          | 2      |      | 3     |
| Protein binding | Other     | DSG1   | IPI00025753  | 22                                     | 20       | 22     | 17   | 9     |
| Protein binding | Other     | DSP  | IPI00013933  | 81                                     | 63       | 28     | 40   | 55    |
| Protein binding | Other     | DSTN   | IPI00473014  |  | 15       | 3      | 4    | 6     |
| Protein binding | Other     | DYSF   | IPI00020210  |  | 55       |        |      |       |
| Protein binding | Other     | EEF1E1   | IPI00003588  |  | 3        | 2      | 11   | 7     |
| Protein binding | Other     | EF3  | IPI00011652  |  | 19       |        |      |       |
| Protein binding | Other     | EIF3S6IP   | IPI00465233  | 12                                     | 2        | 6      | 4    | 20    |
| Protein binding | Other     | ELAVL1   | IPI00301936  |  | 1        |        |      |       |
| Protein binding | Other     | ELMO1  | IPI00219532  |  | 2        | 8      | 4    | 7     |
| Protein binding | Other     | EMD  | IPI00032003  | 8                                      | 6        |        | 2    | 10    |
| Protein binding | Other     | ENG  | IPI00017567  |  | 2        |        |      |       |
| Protein binding | Other     | EPB41L2  | IPI00015973  |  |          |        | 2    |       |
| Protein binding | Other     | EPB41L3  | IPI00032230  |  | 24       |        |      |       |
| Protein binding | Other     | ERGIC1   | IPI00022887  | 7                                      | 8        | 6      | 6    | 10    |
| Protein binding | Other     | EVL  | IPI00218245  |  |          |        |      | 2     |
| Protein binding | Other     | EWSR1  | IPI00009841  | 38                                     | 1        | 31     | 37   | 31    |
| Protein binding | Other     | EWSR1  | IPI00335961  | 2                                      |          |        |      |       |
| Protein binding | Other     | FANCA  | IPI00006170  | 3                                      |          | 5      |      | 10    |
| Protein binding | Other     | FANCD2   | IPI00075081  | 15                                     |          | 26     |      | 11    |

| Protein family  | Subfamily | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|-----------------|-----------|--|--------------|--|----------|--------|------|-------|
|                 |           |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Protein binding | Other     | FBXO6  | IPI00171291  |  |          |        |      | 1     |
| Protein binding | Other     | FGA  | IPI00021885  |  | 14       |        |      |       |
| Protein binding | Other     | FGB  | IPI00298497  |  | 10       |        |      |       |
| Protein binding | Other     | FGG  | IPI00021891  |  | 22       |        |      |       |
| Protein binding | Other     | FIBP   | IPI00012443  | 32                                     | 14       | 26     | 20   | 74    |
| Protein binding | Other     | FIS1   | IPI00007052  | 2                                      | 4        | 2      | 1    | 4     |
| Protein binding | Other     | FLJ12529   | IPI00550821  |  |          | 2      | 1    |       |
| Protein binding | Other     | FLJ14668   | IPI00303722  | 4                                      |          | 2      |      | 2     |
| Protein binding | Other     | FLJ20297   | IPI00007929  |  |          |        |      | 3     |
| Protein binding | Other     | FLNA   | IPI00333541  | 17                                     | 171      | 50     | 24   | 12    |
| Protein binding | Other     | FLNB   | IPI00289334  |  | 29       | 36     | 34   |       |
| Protein binding | Other     | FLNC   | IPI00178352  |  |          |        | 64   |       |
| Protein binding | Other     | FLOT1  | IPI00027438  |  |          |        |      | 4     |
| Protein binding | Other     | FLOT2  | IPI00386741  |  |          |        |      | 4     |
| Protein binding | Other     | FSCN1  | IPI00163187  |  |          |        | 9    |       |
| Protein binding | Other     | FUS  | IPI00260715  | 27                                     |          | 29     | 16   | 21    |
| Protein binding | Other     | FXR1   | IPI0016249   | 5                                      |          | 6      |      |       |
| Protein binding | Other     | G1P2   | IPI00375631  |  | 1        | 8      |      |       |
| Protein binding | Other     | GEMIN4   | IPI00027717  | 12                                     |          | 17     | 5    | 2     |
| Protein binding | Other     | GEMIN5   | IPI00291783  | 21                                     |          | 1      | 2    | 14    |
| Protein binding | Other     | GEMIN6   | IPI00103087  |  |          | 1      | 1    | 2     |
| Protein binding | Other     | GEMIN7   | IPI00003027  |  |          |        |      | 2     |
| Protein binding | Other     | GMCL1  | IPI00063669  |  |          | 11     |      | 8     |
| Protein binding | Other     | GOLGA2   | IPI00478549  | 3                                      |          |        | 4    | 1     |
| Protein binding | Other     | GOLGB1   | IPI00004671  | 10                                     |          | 10     | 15   | 13    |
| Protein binding | Other     | GRPEL1   | IPI00029557  |  |          |        |      | 2     |
| Protein binding | Other     | GSN  | IPI00026314  |  | 4        |        |      |       |
| Protein binding | Other     | HAX1   | IPI00010440  | 3                                      |          |        |      | 9     |
| Protein binding | Other     | HBXIP  | IPI00012831  |  |          |        |      | 1     |
| Protein binding | Other     | HEATR1   | IPI00024279  | 50                                     |          | 14     | 20   | 19    |
| Protein binding | Other     | HIRIP5   | IPI00455153  | 1                                      | 2        | 1      | 2    | 1     |
| Protein binding | Other     | HIST3H2A   | IPI00219037  | 7                                      | 17       | 5      | 11   | 12    |
| Protein binding | Other     | HMG1L1   | IPI00419258  | 38                                     | 14       | 16     | 18   | 11    |
| Protein binding | Other     | HNRPA1   | IPI00215965  | 8                                      | 9        |        | 5    | 4     |
| Protein binding | Other     | HNRPA2B1   | IPI00396378  | 3                                      | 12       |        | 2    | 2     |
| Protein binding | Other     | HNRPC  | IPI00216592  |  | 6        |        |      |       |
| Protein binding | Other     | HNRPF  | IPI00003881  | 4                                      |          | 6      | 11   | 16    |
| Protein binding | Other     | HNRPH1   | IPI00479191  | 11                                     | 7        | 3      | 12   | 5     |
| Protein binding | Other     | HNRPK  | IPI00216746  | 15                                     | 51       | 14     | 5    | 10    |
| Protein binding | Other     | HSPA9B   | IPI00007765  | 186                                    | 20       | 46     | 127  | 75    |
| Protein binding | Other     | HSPBP1   | IPI00100748  | 4                                      |          |        |      | 7     |
| Protein binding | Other     | HSPC152  | IPI00106374  | 3                                      |          | 2      | 2    | 4     |
| Protein binding | Other     | IGFBP1   | IPI00031086  |  | 1        |        |      |       |
| Protein binding | Other     | IGHA1  | IPI00430842  |  | 1        |        |      |       |
| Protein binding | Other     | IGJ  | IPI00178926  |  | 4        | 1      |      | 8     |
| Protein binding | Other     | IGSF8  | IPI00056478  |  |          | 1      |      |       |
| Protein binding | Other     | IMMT   | IPI00009960  | 32                                     | 62       | 72     | 39   | 76    |
| Protein binding | Other     | INCENP   | IPI00024970  | 27                                     |          | 45     | 37   | 38    |
| Protein binding | Other     | INT1   | IPI00175295  | 9                                      |          | 5      |      | 4     |
| Protein binding | Other     | ISGF3G   | IPI00094740  |  |          |        |      | 17    |
| Protein binding | Other     | ISOC2  | IPI00003031  |  | 7        | 9      | 41   | 22    |
| Protein binding | Other     | IVNS1ABP   | IPI00014319  |  |          | 5      |      | 2     |
| Protein binding | Other     | JUP  | IPI00554711  | 11                                     | 28       | 9      | 15   | 17    |
| Protein binding | Other     | KBTBD7   | IPI00383044  |  |          |        |      | 1     |
| Protein binding | Other     | KEAP1  | IPI00106502  | 3                                      |          | 2      |      | 15    |
| Protein binding | Other     | KIAA0174   | IPI00024660  |  | 4        |        |      |       |
| Protein binding | Other     | KIAA1604   | IPI00177381  |  |          | 4      | 1    | 2     |
| Protein binding | Other     | KIAA1698   | IPI00304676  |  |          | 3      |      |       |
| Protein binding | Other     | KLHL23   | IPI00062213  |  |          | 10     |      | 1     |
| Protein binding | Other     | LAMB1  | IPI00013976  |  | 1        |        |      |       |
| Protein binding | Other     | LAMC1  | IPI00298281  |  | 9        |        |      |       |
| Protein binding | Other     | LAT2   | IPI00395993  |  |          |        |      | 4     |
| Protein binding | Other     | LCP1   | IPI00010471  |  | 9        | 29     | 10   | 35    |
| Protein binding | Other     | LIN7C  | IPI00019997  |  | 4        | 3      | 3    | 5     |
| Protein binding | Other     | LMNA   | IPI00021405  | 2                                      | 6        |        |      | 6     |
| Protein binding | Other     | LOC149329  | IPI00554749  | 12                                     | 24       | 15     | 27   | 107   |
| Protein binding | Other     | LOC391039  | IPI00457307  |  | 31       | 11     | 29   | 17    |
| Protein binding | Other     | LSM8   | IPI00219871  | 1                                      |          |        |      | 1     |
| Protein binding | Other     | LSM14A   | IPI00478300  | 3                                      |          | 4      | 4    | 12    |
| Protein binding | Other     | LUZP5  | IPI00396058  |  |          | 6      |      |       |
| Protein binding | Other     | MAD2L1   | IPI00012369  |  |          | 5      | 4    | 10    |
| Protein binding | Other     | MAD2L2   | IPI00645963  |  |          |        | 1    |       |
| Protein binding | Other     | Magmas   | IPI00218463  | 1                                      |          |        | 2    | 3     |
| Protein binding | Other     | MAGOH  | IPI00641469  |  | 1        | 1      |      |       |
| Protein binding | Other     | MAPRE1   | IPI00017596  | 4                                      |          |        | 4    |       |
| Protein binding | Other     | MARCKS   | IPI00219301  |  | 19       |        |      |       |
| Protein binding | Other     | MARCKSL1   | IPI00641181  | 1                                      |          |        | 1    |       |
| Protein binding | Other     | MGC52010   | IPI00219006  |  |          |        |      | 4     |
| Protein binding | Other     | MIG12  | IPI00009730  |  |          | 5      |      | 3     |
| Protein binding | Other     | MNAT1  | IPI00294701  | 58                                     | 6        | 48     | 87   | 72    |
| Protein binding | Other     | MSH2   | IPI00017303  |  |          | 1      | 6    |       |
| Protein binding | Other     | MTPN   | IPI00179589  |  |          | 1      | 2    | 3     |
| Protein binding | Other     | MUTED  | IPI00154778  |  | 1        | 2      | 1    |       |
| Protein binding | Other     | MYH9   | IPI00019502  | 139                                    | 10       | 59     | 47   | 56    |
| Protein binding | Other     | MYH10  | IPI00397526  | 32                                     | 2        | 3      | 13   |       |
| Protein binding | Other     | MYH11  | IPI00020501  |  | 18       |        |      |       |
| Protein binding | Other     | MYO1B  | IPI00376344  |  |          | 1      |      |       |
| Protein binding | Other     | MYO1C  | IPI00010418  |  | 1        |        |      |       |
| Protein binding | Other     | MYO1F  | IPI00414576  |  |          |        |      | 3     |
| Protein binding | Other     | NAP1L1   | IPI00023860  | 3                                      |          | 1      | 1    |       |
| Protein binding | Other     | NAP1L4   | IPI00017763  | 5                                      |          |        |      |       |
| Protein binding | Other     | NCBP1  | IPI00019380  |  |          | 3      | 8    | 1     |
| Protein binding | Other     | NCBP2  | IPI00183500  |  |          |        | 8    | 6     |
| Protein binding | Other     | NCKAP1   | IPI00409684  | 22                                     | 7        |        | 86   |       |
| Protein binding | Other     | NID1   | IPI00026944  |  | 3        |        |      |       |
| Protein binding | Other     | NIFIE14  | IPI00013293  |  |          | 3      | 2    | 2     |
| Protein binding | Other     | NOMO1  | IPI00465432  | 3                                      |          | 1      |      |       |
| Protein binding | Other     | NONO   | IPI00304596  | 12                                     |          | 5      | 8    | 12    |
| Protein binding | Other     | NUDT21   | IPI00646917  | 2                                      | 2        | 2      | 3    | 2     |
| Protein binding | Other     | NUMA1  | IPI00292771  | 6                                      |          | 48     | 5    | 5     |
| Protein binding | Other     | NUP85  | IPI00171542  | 3                                      |          | 4      |      | 4     |
| Protein binding | Other     | NUP205   | IPI00472675  | 78                                     | 21       | 101    | 9    | 82    |
| Protein binding | Other     | NUP210   | IPI00291755  | 14                                     |          | 23     | 6    | 19    |
| Protein binding | Other     | NXT1   | IPI00007605  |  |          | 1      |      |       |
| Protein binding | Other     | PABPN1   | IPI00005792  |  | 1        |        |      |       |
| Protein binding | Other     | PARVA  | IPI00018963  | 45                                     | 16       |        |      |       |
| Protein binding | Other     | PARVB  | IPI00382605  | 28                                     | 7        |        | 7    |       |
| Protein binding | Other     | PARVG  | IPI00005512  |  |          | 36     |      | 9     |
| Protein binding | Other     | PCBP1  | IPI00016610  | 28                                     | 40       | 20     | 15   | 62    |
| Protein binding | Other     | PCBP2  | IPI00216689  | 7                                      | 6        | 9      | 12   | 7     |

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| Protein family  | Subfamily | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|-----------------|-----------|--|--------------|--|----------|--------|------|-------|
|                 |           |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Protein binding | Other     | PCDH9  | IPI00409626  | 5                                      |          |        |      |       |
| Protein binding | Other     | PDCD6IP  | IPI00246058  | 6                                      | 11       | 4      | 9    | 4     |
| Protein binding | Other     | PDLIM2   | IPI00396593  |  | 1        |        |      |       |
| Protein binding | Other     | PEF1   | IPI00018235  | 5                                      | 6        | 8      | 4    | 9     |
| Protein binding | Other     | PEX3   | IPI00010232  |  |          |        |      | 1     |
| Protein binding | Other     | PEX11B   | IPI00021978  | 2                                      | 2        | 10     | 5    | 9     |
| Protein binding | Other     | PFDN2  | IPI00006052  | 2                                      | 2        | 2      | 6    | 5     |
| Protein binding | Other     | PHKB   | IPI00218571  | 41                                     | 17       | 12     | 16   | 24    |
| Protein binding | Other     | PIP  | IPI00022974  | 3                                      | 7        | 3      | 2    | 2     |
| Protein binding | Other     | PKP1   | IPI00071509  |  | 3        | 2      | 3    | 2     |
| Protein binding | Other     | PLEC1  | IPI00014898  |  | 9        | 19     | 37   | 59    |
| Protein binding | Other     | PLEKHC1  | IPI00000856  |  | 6        |        |      |       |
| Protein binding | Other     | POTE2  | IPI00455547  |  |          |        |      | 1     |
| Protein binding | Other     | PRPF8  | IPI00007928  |  |          | 8      | 33   |       |
| Protein binding | Other     | PRPF40A  | IPI00337387  |  |          | 5      | 6    | 3     |
| Protein binding | Other     | PSMD2  | IPI00012268  | 22                                     | 8        | 6      | 12   | 9     |
| Protein binding | Other     | PSMD9  | IPI00010860  |  | 2        | 4      | 4    | 6     |
| Protein binding | Other     | PTBP1  | IPI00183626  | 9                                      | 14       | 3      | 8    | 11    |
| Protein binding | Other     | PURB   | IPI00045051  |  | 1        |        |      |       |
| Protein binding | Other     | PXN  | IPI00220031  |  | 15       |        |      | 2     |
| Protein binding | Other     | RAB1A  | IPI00005719  |  | 14       |        | 6    | 7     |
| Protein binding | Other     | RABL3  | IPI00102897  | 8                                      | 6        | 14     | 7    | 10    |
| Protein binding | Other     | RAE1   | IPI00019733  |  |          |        |      | 1     |
| Protein binding | Other     | RAI14  | IPI00292953  |  | 1        |        |      |       |
| Protein binding | Other     | RALB   | IPI00444204  |  | 3        |        | 1    |       |
| Protein binding | Other     | RAP1A  | IPI00015148  |  | 6        |        | 4    | 3     |
| Protein binding | Other     | RASSF2   | IPI00414179  |  |          |        |      | 6     |
| Protein binding | Other     | RASSF5   | IPI00332633  |  |          | 7      | 3    |       |
| Protein binding | Other     | RBBP5  | IPI00021035  |  |          | 1      | 1    | 2     |
| Protein binding | Other     | RBBP7  | IPI00646512  |  |          |        | 2    |       |
| Protein binding | Other     | RBL1   | IPI00005139  |  |          | 3      |      | 4     |
| Protein binding | Other     | RBL2   | IPI00304028  |  |          | 15     | 6    | 8     |
| Protein binding | Other     | RBMXL1   | IPI00304692  |  | 2        |        |      |       |
| Protein binding | Other     | RBX1   | IPI00003386  | 7                                      | 6        | 8      | 9    | 9     |
| Protein binding | Other     | RCD-8  | IPI00376317  | 12                                     |          | 6      |      | 1     |
| Protein binding | Other     | RDX  | IPI00017367  | 13                                     |          |        | 2    |       |
| Protein binding | Other     | REPS1  | IPI00337532  | 25                                     |          |        |      | 10    |
| Protein binding | Other     | RGS19  | IPI00028108  |  |          |        |      | 7     |
| Protein binding | Other     | RNF7   | IPI00033132  | 3                                      | 1        | 2      | 2    | 2     |
| Protein binding | Other     | RRAS2  | IPI00012512  |  | 1        |        |      |       |
| Protein binding | Other     | RTN4   | IPI00021766  |  | 1        |        |      |       |
| Protein binding | Other     | SAMSN1   | IPI00185526  |  |          |        | 4    |       |
| Protein binding | Other     | SCC-112  | IPI00303063  | 2                                      |          | 20     |      | 8     |
| Protein binding | Other     | SDC1   | IPI00002441  |  | 9        |        |      |       |
| Protein binding | Other     | SDFR1  | IPI00018311  |  | 1        |        |      |       |
| Protein binding | Other     | SERBP1   | IPI00410693  | 10                                     | 3        | 5      | 5    | 7     |
| Protein binding | Other     | SERF2  | IPI00024781  | 3                                      |          |        |      | 8     |
| Protein binding | Other     | SERF2  | IPI00335001  |  |          |        | 1    |       |
| Protein binding | Other     | SF3B3  | IPI00300371  | 14                                     |          | 22     | 14   | 17    |
| Protein binding | Other     | SF3B4  | IPI00017339  |  |          |        | 1    |       |
| Protein binding | Other     | SFPQ   | IPI00010740  | 22                                     |          | 21     | 23   | 30    |
| Protein binding | Other     | SFRS1  | IPI00218591  | 3                                      | 6        | 2      | 5    | 4     |
| Protein binding | Other     | SFRS3  | IPI00010204  |  | 3        |        |      |       |
| Protein binding | Other     | SFRS7  | IPI00003377  |  |          |        |      | 2     |
| Protein binding | Other     | SGTA   | IPI00013949  |  |          |        | 2    |       |
| Protein binding | Other     | SH2D1A   | IPI00032401  |  |          | 2      |      |       |
| Protein binding | Other     | SH2D2A   | IPI00220388  |  |          | 2      | 12   |       |
| Protein binding | Other     | SH3BGRL  | IPI00025318  |  |          |        | 1    |       |
| Protein binding | Other     | SHANK2   | IPI00643662  | 8                                      |          |        |      |       |
| Protein binding | Other     | SHC1   | IPI00021326  |  |          |        | 20   |       |
| Protein binding | Other     | SIAHBP1  | IPI00069750  | 6                                      |          |        | 2    | 14    |
| Protein binding | Other     | SIMILAR TO U2 SMALL NUCLEAR RIBONUCLEOPROTEIN B.                               | IPI00550235  | 2                                      | 1        |        |      |       |
| Protein binding | Other     | SIP1   | IPI00024281  | 3                                      |          |        |      | 1     |
| Protein binding | Other     | SKP1A  | IPI00163974  |  | 6        |        | 6    | 10    |
| Protein binding | Other     | SMC2L1   | IPI00007927  | 7                                      |          | 16     | 4    | 35    |
| Protein binding | Other     | SMC4L1   | IPI00411559  | 26                                     |          | 41     | 2    | 26    |
| Protein binding | Other     | SMCHD1   | IPI00465022  |  |          |        | 3    |       |
| Protein binding | Other     | SMN1   | IPI00003394  | 4                                      |          | 1      |      | 5     |
| Protein binding | Other     | SMNDC1   | IPI00025176  |  |          |        | 2    | 3     |
| Protein binding | Other     | SNAP23   | IPI00010438  |  | 4        | 4      |      | 8     |
| Protein binding | Other     | SNAPAP   | IPI00018331  |  |          | 1      |      | 2     |
| Protein binding | Other     | SNRPA  | IPI00012382  |  |          |        | 2    |       |
| Protein binding | Other     | SNRPB  | IPI00329512  |  |          | 2      | 4    | 4     |
| Protein binding | Other     | SNRPB2   | IPI00029267  | 1                                      |          |        |      | 3     |
| Protein binding | Other     | SNRPD1   | IPI00302850  | 3                                      |          | 2      | 6    | 4     |
| Protein binding | Other     | SNRPD2   | IPI00017963  | 7                                      | 4        | 9      | 16   | 13    |
| Protein binding | Other     | SNRPD3   | IPI00017964  | 3                                      | 3        | 4      | 5    | 8     |
| Protein binding | Other     | SNRPE  | IPI00029266  | 1                                      |          |        | 3    |       |
| Protein binding | Other     | SNRPG  | IPI00016572  |  |          |        |      | 1     |
| Protein binding | Other     | SNTB1  | IPI00026059  |  |          |        |      | 8     |
| Protein binding | Other     | SNTB2  | IPI00009505  |  |          |        |      | 17    |
| Protein binding | Other     | SNX1   | IPI00183530  |  | 5        |        |      | 3     |
| Protein binding | Other     | SNX22  | IPI00307039  |  |          |        |      | 13    |
| Protein binding | Other     | SPTAN1   | IPI00478292  |  |          | 131    | 84   |       |
| Protein binding | Other     | SPTBN1   | IPI00005614  |  | 5        | 72     | 106  |       |
| Protein binding | Other     | SQSTM1   | IPI00179473  | 4                                      |          |        |      |       |
| Protein binding | Other     | SSR3   | IPI00009235  |  | 2        | 2      |      | 2     |
| Protein binding | Other     | SSRP1  | IPI00005154  | 19                                     |          |        |      |       |
| Protein binding | Other     | STMN1  | IPI00479997  |  | 5        |        | 18   | 7     |
| Protein binding | Other     | STN2   | IPI00103521  |  |          |        | 8    |       |
| Protein binding | Other     | STRN4  | IPI00003016  |  |          |        |      | 1     |
| Protein binding | Other     | STX4A  | IPI00029730  |  | 2        |        |      |       |
| Protein binding | Other     | STX18  | IPI00027194  |  |          |        |      | 1     |
| Protein binding | Other     | SUMO2  | IPI00140827  | 2                                      |          |        |      |       |
| Protein binding | Other     | SYMPK  | IPI00023344  | 1                                      |          | 3      |      | 7     |
| Protein binding | Other     | SYNE1  | IPI00386444  |  |          |        |      | 9     |
| Protein binding | Other     | SYNE2  | IPI00239406  |  |          |        |      | 26    |
| Protein binding | Other     | SYVN1  | IPI00168996  | 3                                      |          | 4      |      | 8     |
| Protein binding | Other     | TAGLN  | IPI00216138  |  | 57       |        | 225  |       |
| Protein binding | Other     | TANK   | IPI00299166  | 182                                    | 124      | 215    |      | 585   |
| Protein binding | Other     | TBCA   | IPI00217236  | 4                                      | 2        |        | 5    |       |
| Protein binding | Other     | TCEB1  | IPI00300341  | 8                                      |          | 8      | 5    | 7     |
| Protein binding | Other     | TCEB2  | IPI00410162  | 4                                      | 1        | 5      | 6    | 16    |
| Protein binding | Other     | TCL1A  | IPI00178749  |  |          |        |      | 13    |
| Protein binding | Other     | TCF1   | IPI00290566  | 11                                     | 5        | 8      | 10   | 12    |
| Protein binding | Other     | THOC4  | IPI00328840  | 11                                     |          | 24     | 13   | 24    |
| Protein binding | Other     | TMEM4  | IPI00443909  |  | 1        |        | 1    |       |
| Protein binding | Other     | TMPO   | IPI00030131  |  |          |        |      |       |
| Protein binding | Other     | TMPO   | IPI00216230  |  |          |        | 2    | 7     |
| Protein binding | Other     | TNIP1  | IPI00237449  |  |          |        |      | 1     |

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| Protein family  | Subfamily | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|-----------------|-----------|--|--------------|--|----------|--------|------|-------|
|                 |           |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Protein binding | Other     | TNKS1BP1   | IPI00304589  |  |          | 4      |      |       |
| Protein binding | Other     | TNS1   | IPI00307545  | 102                                    | 14       |        |      |       |
| Protein binding | Other     | TPD52  | IPI00218323  |  | 1        |        |      | 2     |
| Protein binding | Other     | TPD52L2  | IPI00399265  | 1                                      | 3        |        |      |       |
| Protein binding | Other     | TPM1   | IPI00218319  | 21                                     | 15       | 15     | 19   | 9     |
| Protein binding | Other     | TPM1   | IPI00442122  |  | 8        |        |      |       |
| Protein binding | Other     | TPM2   | IPI00220709  |  | 3        |        |      |       |
| Protein binding | Other     | TPM4   | IPI00216975  |  | 28       | 4      |      |       |
| Protein binding | Other     | TRAF3  | IPI00297473  |  |          | 4      |      |       |
| Protein binding | Other     | TRAF5  | IPI00005760  |  |          |        |      | 2     |
| Protein binding | Other     | TRIM31   | IPI00643935  | 2                                      |          |        |      |       |
| Protein binding | Other     | TRIM59   | IPI00432462  |  |          |        | 32   |       |
| Protein binding | Other     | TRIM65   | IPI00419451  |  |          | 2      |      | 2     |
| Protein binding | Other     | U2AF1  | IPI00619914  | 6                                      | 4        |        | 3    | 5     |
| Protein binding | Other     | UBAP2L   | IPI00412535  | 2                                      |          |        |      | 11    |
| Protein binding | Other     | URP2   | IPI00397834  | 1                                      |          |        | 1    | 1     |
| Protein binding | Other     | UTRN   | IPI00009329  |  |          | 31     | 1    | 211   |
| Protein binding | Other     | UTRN   | IPI00514575  |  |          | 4      |      | 6     |
| Protein binding | Other     | VAMP3  | IPI00514389  |  | 3        |        |      |       |
| Protein binding | Other     | VASP   | IPI00301058  |  |          |        | 4    |       |
| Protein binding | Other     | VBP1   | IPI00334159  |  |          | 2      |      |       |
| Protein binding | Other     | VIL2   | IPI00479359  | 4                                      | 53       |        |      | 5     |
| Protein binding | Other     | VIM  | IPI00418471  |  | 7        |        | 24   |       |
| Protein binding | Other     | VPS28  | IPI00328913  |  | 4        | 3      | 3    |       |
| Protein binding | Other     | VPS35  | IPI00018931  | 1                                      | 6        | 3      | 5    |       |
| Protein binding | Other     | VWF  | IPI00023014  |  | 7        |        |      |       |
| Protein binding | Other     | WASF2  | IPI00472164  | 5                                      |          |        | 14   | 4     |
| Protein binding | Other     | WBP2   | IPI00032050  |  |          |        |      | 1     |
| Protein binding | Other     | WDR1   | IPI00216256  |  | 7        | 4      |      |       |
| Protein binding | Other     | WDR5   | IPI00005492  |  | 1        |        | 5    | 3     |
| Protein binding | Other     | WDR68  | IPI00006754  | 8                                      | 2        | 11     | 15   | 17    |
| Protein binding | Other     | XPO5   | IPI00640703  | 51                                     | 5        | 47     | 52   | 41    |
| Protein binding | Other     | YWHAE  | IPI00000816  | 123                                    | 72       | 99     | 150  | 80    |
| Protein binding | Other     | YWHAQ  | IPI00018146  | 30                                     | 19       | 57     | 68   | 89    |
| Protein binding | Other     | YWHAZ  | IPI00180776  | 2                                      | 53       | 8      | 3    | 116   |
| Protein binding | Other     | ZMYM1  | IPI00643628  | 2                                      |          |        |      |       |
| Protein binding | Other     | ZNF234   | IPI00015593  | 46                                     | 6        |        | 8    | 31    |
| Protein binding | Other     | ZNF313   | IPI00032955  |  |          | 5      |      |       |
| Protein binding | Other     | ZNF364   | IPI00337608  | 1                                      |          |        |      |       |
| Protein binding | Other     | ZNF598   | IPI00328737  | 1                                      |          |        |      |       |
| Protein binding | Other     | ZW10   | IPI00011631  | 2                                      |          |        |      | 3     |
| Protein binding | Other     | ZYX  | IPI00020513  |  | 9        |        |      |       |
| Transporter     | Amine     | SLC1A4   | IPI00015476  |  |          |        |      | 1     |
| Transporter     | Amine     | SLC1A5   | IPI00019472  |  | 2        |        |      | 6     |
| Transporter     | Amine     | SLC7A1   | IPI00027728  |  |          | 1      |      |       |
| Transporter     | Amine     | SLC7A5   | IPI00008986  | 13                                     | 6        | 8      | 17   | 22    |
| Transporter     | Amine     | SLC7A8   | IPI00296114  |  | 1        |        |      |       |
| Transporter     | Amine     | SLC7A11  | IPI00010474  | 39                                     |          |        |      | 7     |
| Transporter     | Amine     | SLC25A22   | IPI00003004  | 3                                      | 3        |        | 4    | 7     |
| Transporter     | Amine     | SLC38A1  | IPI00023030  | 1                                      |          |        |      |       |
| Transporter     | Antigen   | TAP2   | IPI00328112  | 3                                      | 2        | 6      | 1    | 11    |
| Transporter     | Drug      | EBP  | IPI00008599  | 2                                      |          | 8      |      | 8     |
| Transporter     | Ion       | ATP1A1   | IPI00006482  | 15                                     | 14       | 13     | 2    | 31    |
| Transporter     | Ion       | ATP1B3   | IPI00008167  |  |          |        |      | 7     |
| Transporter     | Ion       | ATP2A2   | IPI00219078  | 38                                     | 34       | 51     | 31   | 60    |
| Transporter     | Ion       | ATP2A3   | IPI00303760  |  |          | 2      | 3    | 5     |
| Transporter     | Ion       | ATP2B1   | IPI00021695  |  | 23       |        | 1    | 3     |
| Transporter     | Ion       | ATP2B2   | IPI00009791  |  |          |        |      | 1     |
| Transporter     | Ion       | ATP2B4   | IPI00012490  |  | 8        |        |      |       |
| Transporter     | Ion       | ATP2C1   | IPI00607568  |  |          | 3      |      | 3     |
| Transporter     | Ion       | ATP5A1   | IPI00440493  | 25                                     | 22       | 19     | 13   | 21    |
| Transporter     | Ion       | ATP5B  | IPI00303476  | 27                                     | 12       | 7      | 15   | 16    |
| Transporter     | Ion       | ATP5C1   | IPI00478410  | 18                                     | 9        | 9      | 8    | 8     |
| Transporter     | Ion       | ATP5D  | IPI00024920  |  |          | 2      | 1    | 2     |
| Transporter     | Ion       | ATP5F1   | IPI00029133  |  | 7        | 11     | 11   | 21    |
| Transporter     | Ion       | ATP5H  | IPI00220487  |  | 10       | 9      | 7    | 19    |
| Transporter     | Ion       | ATP5I  | IPI00218848  |  |          |        |      | 5     |
| Transporter     | Ion       | ATP5J2   | IPI00220300  | 4                                      |          | 5      |      | 2     |
| Transporter     | Ion       | ATP5L  | IPI00027448  | 2                                      | 4        | 2      | 3    | 7     |
| Transporter     | Ion       | ATP5O  | IPI00007611  | 2                                      | 16       | 17     | 20   | 28    |
| Transporter     | Ion       | ATP6_HUMAN   | IPI00654820  |  |          | 2      | 2    | 6     |
| Transporter     | Ion       | ATP6V0A2   | IPI00000425  |  |          |        |      | 13    |
| Transporter     | Ion       | ATP6V1A  | IPI00007682  |  | 5        |        | 3    |       |
| Transporter     | Ion       | ATP6V1H  | IPI00296191  | 1                                      | 2        |        | 2    |       |
| Transporter     | Ion       | CACNA1A  | IPI00217498  |  |          |        |      | 2     |
| Transporter     | Ion       | CLIC1  | IPI00010896  | 2                                      | 7        |        | 9    | 3     |
| Transporter     | Ion       | CLIC3  | IPI00000692  |  | 5        |        |      |       |
| Transporter     | Ion       | CLIC4  | IPI00001960  |  | 5        |        | 2    |       |
| Transporter     | Ion       | CLIC5  | IPI00027193  |  | 2        |        |      |       |
| Transporter     | Ion       | COX2   | IPI00017510  |  | 6        | 4      |      | 6     |
| Transporter     | Ion       | COX4I1   | IPI00006579  | 5                                      |          | 4      | 3    | 8     |
| Transporter     | Ion       | COX5A  | IPI00025086  |  |          |        |      | 2     |
| Transporter     | Ion       | COX6B1   | IPI00216085  |  |          |        | 1    | 1     |
| Transporter     | Ion       | COX17  | IPI00477819  |  |          |        | 1    | 1     |
| Transporter     | Ion       | HEPH   | IPI00107855  |  |          |        | 3    |       |
| Transporter     | Ion       | ITPR1  | IPI00333753  |  |          |        |      | 7     |
| Transporter     | Ion       | ITPR2  | IPI00031545  |  | 5        | 36     | 9    | 5     |
| Transporter     | Ion       | ITPR3  | IPI00291607  |  |          |        | 1    | 3     |
| Transporter     | Ion       | KCTD5  | IPI00004506  |  |          |        |      | 2     |
| Transporter     | Ion       | KCTD12   | IPI00607015  |  | 4        |        |      |       |
| Transporter     | Ion       | LASP1  | IPI00386803  |  | 39       |        |      |       |
| Transporter     | Ion       | MGC15619   | IPI00153005  |  |          | 1      | 1    | 2     |
| Transporter     | Ion       | MON2   | IPI00465246  | 33                                     | 4        | 11     | 3    | 24    |
| Transporter     | Ion       | NNT  | IPI00337541  |  |          | 8      | 1    | 6     |
| Transporter     | Ion       | NOLA1  | IPI00302176  |  |          |        |      | 4     |
| Transporter     | Ion       | NUP153   | IPI00292059  |  |          | 1      |      |       |
| Transporter     | Ion       | PLP2   | IPI00030362  |  | 1        |        |      |       |
| Transporter     | Ion       | SFXN3  | IPI00329606  |  | 11       |        |      |       |
| Transporter     | Ion       | SIMILAR TO VOLTAGE-DEPENDENT ANION-SELECTIVE CHAN                              | IPI00058004  |  | 3        |        |      | 4     |
| Transporter     | Ion       | SLC3A2   | IPI00554481  | 45                                     | 12       | 3      | 8    | 10    |
| Transporter     | Ion       | SLC4A1   | IPI00022361  |  | 4        |        |      |       |
| Transporter     | Ion       | SLC5A6   | IPI00031822  |  | 3        |        | 2    |       |
| Transporter     | Ion       | SLC9A3R1   | IPI00003527  |  | 2        |        |      |       |
| Transporter     | Ion       | SLC12A2  | IPI00022649  |  |          |        |      | 6     |
| Transporter     | Ion       | SLC22A18   | IPI00410347  | 2                                      |          |        |      |       |
| Transporter     | Ion       | SLC25A3  | IPI00022202  | 49                                     | 88       | 56     | 38   | 74    |
| Transporter     | Ion       | SLC25A11   | IPI00219729  | 2                                      | 28       | 8      |      | 2     |
| Transporter     | Ion       | SLC25A12   | IPI00386271  |  |          | 3      |      | 6     |
| Transporter     | Ion       | SLC25A13   | IPI00007084  |  | 9        |        |      | 2     |
| Transporter     | Ion       | SLC30A7  | IPI00302605  | 7                                      | 6        |        |      | 3     |

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| Protein family | Subfamily     | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|----------------|---------------|--|--------------|--|----------|--------|------|-------|
|                |               |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Transporter    | Ion           | SLC39A1  | IPI00100585  | 1                                      |          |        |      |       |
| Transporter    | Ion           | SLC39A3  | IPI00029337  |  |          |        | 3    |       |
| Transporter    | Ion           | SLC39A9  | IPI00020030  |  |          | 1      |      |       |
| Transporter    | Ion           | SLC40A1  | IPI00005547  |  | 4        |        |      |       |
| Transporter    | Ion           | UQCRC2   | IPI00305383  | 2                                      |          |        | 1    | 5     |
| Transporter    | Ion           | VDAC2  | IPI00024145  | 16                                     | 39       | 20     | 19   | 63    |
| Transporter    | Ion           | VDAC3  | IPI00294779  | 7                                      | 4        | 6      | 2    | 4     |
| Transporter    | Ion           | TF   | IPI00022463  |  | 73       |        |      |       |
| Transporter    | Lipid         | APOA1  | IPI00021841  |  | 39       |        |      |       |
| Transporter    | Lipid         | APOB   | IPI00022229  |  | 169      |        |      |       |
| Transporter    | Lipid         | APOE   | IPI00021842  |  | 7        |        |      |       |
| Transporter    | Lipid         | CDIPT  | IPI00374969  |  | 11       | 2      |      | 5     |
| Transporter    | Lipid         | HDLBP  | IPI00022228  | 7                                      | 2        | 2      | 2    |       |
| Transporter    | Lipid         | HSD17B4  | IPI00019912  | 36                                     | 33       | 17     | 872  | 7     |
| Transporter    | Lipid         | KIAA1212   | IPI00171134  | 4                                      |          |        |      |       |
| Transporter    | Lipid         | LDLR   | IPI00000070  | 2                                      |          |        |      |       |
| Transporter    | Lipid         | LRP1   | IPI00020557  |  | 32       |        |      |       |
| Transporter    | Lipid         | RFT1   | IPI00059368  | 4                                      | 1        | 7      | 8    | 8     |
| Transporter    | Lipid         | SLCO2A1  | IPI00295132  |  | 2        |        |      |       |
| Transporter    | Lipid         | SORL1  | IPI00022608  |  |          |        |      | 71    |
| Transporter    | Mitochondrial | FXC1   | IPI00001538  | 5                                      | 3        | 6      | 4    | 9     |
| Transporter    | Mitochondrial | MCFP   | IPI00290827  |  |          |        |      | 5     |
| Transporter    | Mitochondrial | MTCH2  | IPI00003833  |  | 3        | 4      |      | 7     |
| Transporter    | Mitochondrial | SIMILAR TO MITOCHONDRIAL IMPORT INNER MEMBRANE TR                              | IPI00549865  | 1                                      |          |        |      |       |
| Transporter    | Mitochondrial | SLC25A35   | IPI00654813  |  | 3        |        |      |       |
| Transporter    | Mitochondrial | TIMM9  | IPI00001541  |  |          |        | 6    | 7     |
| Transporter    | Mitochondrial | TIMM10   | IPI00001543  | 2                                      |          |        | 6    | 6     |
| Transporter    | Nucleic acid  | SLC25A4  | IPI00022891  |  | 3        |        |      | 3     |
| Transporter    | Nucleic acid  | SLC25A5  | IPI00007188  | 12                                     | 27       | 40     | 13   | 63    |
| Transporter    | Nucleoporin   | NUP35  | IPI00329650  |  |          |        |      | 1     |
| Transporter    | Nucleoporin   | NUP37  | IPI00171665  | 1                                      |          |        |      | 1     |
| Transporter    | Nucleoporin   | NUP88  | IPI00001738  | 2                                      |          | 1      | 2    |       |
| Transporter    | Nucleoporin   | NUP93  | IPI00397904  | 5                                      | 3        | 22     |      | 12    |
| Transporter    | Nucleoporin   | NUP98  | IPI00337397  |  |          | 1      |      |       |
| Transporter    | Nucleoporin   | NUP133   | IPI00291200  | 1                                      |          |        |      |       |
| Transporter    | Nucleoporin   | NUP155   | IPI00026625  | 31                                     | 7        | 21     | 17   | 36    |
| Transporter    | Nucleoporin   | NUP188   | IPI00477040  | 40                                     |          | 25     |      | 26    |
| Transporter    | Nucleoporin   | NUP214   | IPI00183294  |  |          |        |      | 2     |
| Transporter    | Nucleoporin   | SEH1L  | IPI000220609 |  |          |        | 1    | 2     |
| Transporter    | Nucleoporin   | TMEM48   | IPI00386760  |  |          | 2      |      | 14    |
| Transporter    | Nucleoporin   | TPR  | IPI00022970  |  |          | 1      |      | 22    |
| Transporter    | Nucleoporin   | XPO4   | IPI00028357  | 8                                      |          |        | 9    | 22    |
| Transporter    | Nucleotide    | C6orf108   | IPI00007926  |  | 1        |        | 4    |       |
| Transporter    | Organic acid  | SLC16A1  | IPI00024650  | 3                                      |          |        |      | 23    |
| Transporter    | Organic acid  | SLC16A3  | IPI00006666  | 7                                      | 5        |        |      | 3     |
| Transporter    | Organic acid  | SLC16A7  | IPI00386167  | 1                                      |          |        |      | 3     |
| Transporter    | Organic acid  | SLC25A1  | IPI00294159  | 4                                      | 7        |        |      |       |
| Transporter    | Organic acid  | SLC25A10   | IPI000217277 |  |          | 5      |      | 4     |
| Transporter    | Peptide       | ABCB7  | IPI00556553  | 6                                      |          |        |      |       |
| Transporter    | Peptide       | SLC38A5  | IPI00102509  | 1                                      |          |        |      |       |
| Transporter    | Peptide       | TAP1   | IPI00646625  |  |          | 9      |      | 5     |
| Transporter    | Protein       | AP1S1  | IPI00152898  |  | 2        |        | 4    | 1     |
| Transporter    | Protein       | AP2S1  | IPI00219840  | 9                                      |          | 2      | 15   | 13    |
| Transporter    | Protein       | C3orf1   | IPI00299387  |  | 5        |        |      |       |
| Transporter    | Protein       | COG2   | IPI00000057  |  |          |        |      | 5     |
| Transporter    | Protein       | COPA   | IPI00295857  | 25                                     | 10       | 11     | 7    | 27    |
| Transporter    | Protein       | COPB2  | IPI00220219  | 8                                      | 6        |        | 4    | 2     |
| Transporter    | Protein       | COPE   | IPI00465132  |  | 2        |        |      |       |
| Transporter    | Protein       | CSE1L  | IPI00022744  | 42                                     | 26       | 34     | 26   | 42    |
| Transporter    | Protein       | IPO4   | IPI00398009  | 5                                      |          | 13     | 7    |       |
| Transporter    | Protein       | IPO7   | IPI00007402  | 37                                     | 11       | 17     | 27   | 46    |
| Transporter    | Protein       | IPO8   | IPI00007401  | 7                                      |          | 8      | 4    | 2     |
| Transporter    | Protein       | IPO9   | IPI00514686  | 9                                      | 3        | 12     | 9    | 13    |
| Transporter    | Protein       | IPO11  | IPI00301107  | 5                                      | 6        | 20     | 17   | 4     |
| Transporter    | Protein       | IPO13  | IPI00005651  | 1                                      | 1        | 2      | 1    | 1     |
| Transporter    | Protein       | KPNA2  | IPI00002214  | 3                                      |          |        |      | 5     |
| Transporter    | Protein       | KPNA3  | IPI00299033  |  |          | 1      |      | 8     |
| Transporter    | Protein       | KPNA4  | IPI00012578  | 3                                      |          | 1      | 1    | 8     |
| Transporter    | Protein       | KPNA5  | IPI00413214  |  |          | 9      |      | 2     |
| Transporter    | Protein       | KPNB1  | IPI00001639  | 10                                     | 8        | 9      | 12   | 10    |
| Transporter    | Protein       | MTX2   | IPI00025717  | 1                                      | 3        | 3      | 2    | 6     |
| Transporter    | Protein       | SEC13L1  | IPI00375370  | 5                                      | 3        | 6      | 14   | 10    |
| Transporter    | Protein       | SEC61A1  | IPI00218466  | 46                                     | 20       | 11     | 19   | 17    |
| Transporter    | Protein       | SEC61B   | IPI00220835  | 6                                      | 6        | 6      | 7    | 6     |
| Transporter    | Protein       | SLC25A17   | IPI00014440  |  |          | 2      |      | 3     |
| Transporter    | Protein       | SORT1  | IPI00217882  |  |          | 4      | 3    |       |
| Transporter    | Protein       | STX7   | IPI00289876  |  | 5        |        |      | 4     |
| Transporter    | Protein       | STX12  | IPI00329332  |  |          |        |      | 2     |
| Transporter    | Protein       | TIMM23   | IPI00007309  |  |          |        |      | 4     |
| Transporter    | Protein       | TIMM44   | IPI00306516  |  |          |        |      | 1     |
| Transporter    | Protein       | TNPO1  | IPI00024364  | 22                                     | 15       | 18     | 16   | 19    |
| Transporter    | Protein       | TNPO2  | IPI00409698  |  | 2        | 3      | 2    |       |
| Transporter    | Protein       | TOMM20   | IPI00016676  |  |          |        |      | 3     |
| Transporter    | Protein       | VDAC1  | IPI00216308  | 15                                     | 54       | 31     | 27   | 79    |
| Transporter    | Protein       | VDP  | IPI00031583  |  | 4        |        | 4    |       |
| Transporter    | Protein       | XPO1   | IPI00298961  | 48                                     | 27       | 38     | 39   | 21    |
| Transporter    | Protein       | XPO6   | IPI00639925  | 12                                     |          | 13     | 10   | 14    |
| Transporter    | Protein       | XPO7   | IPI00302458  | 10                                     | 21       | 27     | 26   | 9     |
| Transporter    | Sugar         | SLC2A1   | IPI00220194  |  | 61       |        |      | 19    |
| Transporter    | Sugar         | SLC2A5   | IPI00027452  |  |          |        |      | 2     |
| Transporter    | Sugar         | SLC2A14  | IPI00152505  |  |          |        | 3    |       |
| Transporter    | Sugar         | SLC37A4  | IPI000217409 |  |          |        | 1    | 1     |
| Transporter    | Trafficking   | TRAPPC3  | IPI00004324  |  | 5        |        | 2    |       |
| Transporter    | Vitamin       | TTR  | IPI00022432  |  | 7        |        |      |       |
| Transporter    | Amino acid    | SLC43A2  | IPI00171004  |  | 16       |        |      |       |
| Transporter    | ER / Golgi    | SEC22L1  | IPI00006865  |  | 12       | 6      |      | 9     |
| Transporter    | ER / Golgi    | SEC23A   | IPI00017375  | 7                                      | 10       | 4      |      | 8     |
| Transporter    | ER / Golgi    | SEC23B   | IPI00017376  | 6                                      | 4        | 11     | 9    | 16    |
| Transporter    | ER / Golgi    | SEC23P   | IPI00026969  |  | 4        |        |      | 5     |
| Transporter    | ER / Golgi    | SEC24B   | IPI00030851  |  | 4        |        |      | 2     |
| Transporter    | ER / Golgi    | SEC24C   | IPI00024661  |  | 6        | 5      | 7    | 26    |
| Transporter    | Other         | ABCB8  | IPI00019022  | 5                                      |          | 3      |      | 4     |
| Transporter    | Other         | ABCB10   | IPI00015826  |  |          | 3      |      |       |
| Transporter    | Other         | ABCD1  | IPI00291373  | 7                                      | 10       |        |      |       |
| Transporter    | Other         | ABCD3  | IPI00002372  |  | 1        | 8      |      | 10    |
| Transporter    | Other         | ABCF1  | IPI00302146  |  | 2        | 1      |      |       |
| Transporter    | Other         | ECM1   | IPI00645849  |  |          |        | 1    |       |
| Transporter    | Other         | GC   | IPI00555812  |  | 8        |        |      |       |
| Transporter    | Other         | HBB  | IPI00382950  | 5                                      | 148      | 2      | 5    | 4     |
| Transporter    | Other         | HBB  | IPI00472787  |  | 6        |        |      |       |

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| Protein family | Subfamily | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|----------------|-----------|--|--------------|--|----------|--------|------|-------|
|                |           |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Transporter    | Other     | HBG1   | IPI00030809  | 1                                      | 334      |        | 13   | 3     |
| Transporter    | Other     | HBZ  | IPI00334432  | 3                                      | 295      | 2      | 2    | 6     |
| Transporter    | Other     | HBZ  | IPI00480146  |  | 5        |        | 10   |       |
| Transporter    | Other     | HPX  | IPI00022488  |  | 5        |        |      |       |
| Transporter    | Other     | KIAA1012   | IPI00007253  |  |          |        |      | 1     |
| Transporter    | Other     | NAPA   | IPI00009253  |  |          |        | 1    |       |
| Transporter    | Other     | NAPB   | IPI00651644  |  |          |        |      | 2     |
| Transporter    | Other     | NUP180   | IPI00221235  | 17                                     | 7        | 30     |      | 24    |
| Transporter    | Other     | PPGB   | IPI00640525  |  | 1        |        |      |       |
| Transporter    | Other     | SLC25A4  | IPI00291467  | 24                                     | 71       | 12     | 6    | 14    |
| Transporter    | Other     | SLC33A1  | IPI00006205  | 1                                      | 1        | 1      | 2    | 6     |
| Transporter    | Other     | SLC35E1  | IPI00101952  | 1                                      | 3        | 2      | 1    | 7     |
| Transporter    | Other     | SNAP29   | IPI00032831  | 1                                      | 2        | 1      | 8    | 5     |
| Transporter    | Other     | SV2A   | IPI00644025  |  |          | 2      |      |       |
| Receptor       | -         | (XM 374569) SIMILAR TO T CELL RECEPTOR BETA.                                   | IPI00397415  |  |          | 5      |      |       |
| Receptor       | -         | B2M  | IPI00004656  | 6                                      |          | 3      | 3    | 5     |
| Receptor       | -         | BCAM   | IPI00002406  |  | 4        |        |      |       |
| Receptor       | -         | BZRP   | IPI00026850  |  |          |        |      | 2     |
| Receptor       | -         | CD2  | IPI00027484  |  |          | 8      |      |       |
| Receptor       | -         | CD3D   | IPI00022934  |  |          | 1      |      |       |
| Receptor       | -         | CD3E   | IPI00012923  |  |          | 3      |      |       |
| Receptor       | -         | CD3G   | IPI00016020  |  |          | 1      |      |       |
| Receptor       | -         | CD3Z   | IPI00218634  |  |          | 8      |      |       |
| Receptor       | -         | CD4  | IPI00003983  |  | 1        | 28     |      |       |
| Receptor       | -         | CD38   | IPI00006071  |  |          |        |      | 10    |
| Receptor       | -         | CD79A  | IPI00008473  |  |          |        |      | 1     |
| Receptor       | -         | CD79B  | IPI00027668  |  |          |        |      | 7     |
| Receptor       | -         | CLDN4  | IPI00021944  |  | 4        |        |      |       |
| Receptor       | -         | COLEC12  | IPI00247616  |  | 4        |        |      |       |
| Receptor       | -         | CRIM1  | IPI00009294  |  | 1        |        |      |       |
| Receptor       | -         | CRSP3  | IPI00477404  | 34                                     |          | 60     | 17   | 27    |
| Receptor       | -         | CXCR4  | IPI00216445  |  |          | 3      |      | 23    |
| Receptor       | -         | DERL1  | IPI00013271  |  | 3        | 4      |      | 6     |
| Receptor       | -         | DMBT1  | IPI00553058  |  |          | 2      |      |       |
| Receptor       | -         | DOCK10   | IPI00333770  |  |          |        |      | 3     |
| Receptor       | -         | ELOVL4   | IPI00009295  |  |          | 2      |      |       |
| Receptor       | -         | EPS15  | IPI00292134  |  |          |        | 7    |       |
| Receptor       | -         | FBN1   | IPI00328113  |  | 2        |        |      |       |
| Receptor       | -         | FCGR2B   | IPI00013971  |  | 1        |        | 2    |       |
| Receptor       | -         | FCRLM1   | IPI00292096  |  |          |        |      | 15    |
| Receptor       | -         | FKBP1A   | IPI00413778  | 3                                      | 4        | 9      | 6    | 4     |
| Receptor       | -         | FKBP3  | IPI00024157  | 2                                      | 2        |        |      |       |
| Receptor       | -         | FLVCR  | IPI00022344  | 2                                      |          |        |      |       |
| Receptor       | -         | GPR89  | IPI00008847  | 4                                      | 6        |        | 2    | 11    |
| Receptor       | -         | GUCY1B3  | IPI00289033  |  | 2        |        |      |       |
| Receptor       | -         | HLA-A  | IPI00472882  | 12                                     |          |        |      | 2     |
| Receptor       | -         | HLA-B  | IPI00472073  |  | 2        |        |      | 2     |
| Receptor       | -         | HLA-B  | IPI00604445  | 8                                      |          |        |      | 4     |
| Receptor       | -         | HLA-B  | IPI00646083  | 2                                      |          |        |      |       |
| Receptor       | -         | HLA-BW62 ANTIGEN (FRAGMENT).   | IPI00604470  |  |          |        |      | 1     |
| Receptor       | -         | HLA-C  | IPI00472162  | 8                                      |          | 3      |      | 11    |
| Receptor       | -         | HLA-CW3 (FRAGMENT).  | IPI00553154  |  |          |        |      | 1     |
| Receptor       | -         | HLA-DOB  | IPI00010410  |  |          |        |      | 1     |
| Receptor       | -         | HLA-DQA1   | IPI00719648  |  |          |        |      | 4     |
| Receptor       | -         | HLA-DQB2   | IPI00472169  |  |          |        |      | 1     |
| Receptor       | -         | HLA-DRB1   | IPI00472236  |  |          |        |      | 9     |
| Receptor       | -         | HMMR   | IPI00337772  | 11                                     |          | 6      | 10   | 14    |
| Receptor       | -         | HPGD   | IPI00305286  |  | 54       | 1      | 4    |       |
| Receptor       | -         | ICAM1  | IPI00008494  |  | 1        |        |      | 1     |
| Receptor       | -         | IGF2R  | IPI00289819  | 4                                      | 5        | 37     | 28   | 20    |
| Receptor       | -         | IL28RA   | IPI00216651  |  |          |        |      | 3     |
| Receptor       | -         | ITGA1  | IPI00472202  |  | 3        |        |      |       |
| Receptor       | -         | ITGA3  | IPI00290043  |  | 1        |        |      |       |
| Receptor       | -         | ITGA4  | IPI00009803  |  |          | 10     |      | 1     |
| Receptor       | -         | ITGA5  | IPI00306604  |  | 10       |        | 4    |       |
| Receptor       | -         | ITGA6  | IPI00010697  |  | 17       |        |      |       |
| Receptor       | -         | ITGAL  | IPI00219896  |  |          | 1      |      | 7     |
| Receptor       | -         | ITGB1  | IPI00217561  |  | 20       |        |      |       |
| Receptor       | -         | ITGB2  | IPI00291792  |  |          | 4      |      |       |
| Receptor       | -         | ITGB4  | IPI00027422  |  | 35       |        |      |       |
| Receptor       | -         | KDELRL1  | IPI00028116  |  | 5        | 3      |      | 5     |
| Receptor       | -         | KDELRL2  | IPI00018248  | 3                                      |          |        |      | 5     |
| Receptor       | -         | KDELRL3  | IPI00376991  |  | 1        |        |      |       |
| Receptor       | -         | LAMA5  | IPI00641693  |  | 6        |        |      |       |
| Receptor       | -         | LANCL1   | IPI00005724  |  | 1        |        |      |       |
| Receptor       | -         | LBR  | IPI00292135  |  |          | 1      |      |       |
| Receptor       | -         | LENG4  | IPI00657706  | 9                                      | 8        |        | 1    |       |
| Receptor       | -         | LEPR   | IPI00472452  | 1                                      | 2        |        | 1    | 4     |
| Receptor       | -         | LEPROTL1   | IPI00029397  |  |          |        |      | 2     |
| Receptor       | -         | LGALS3BP   | IPI00023673  | 90                                     | 5        | 4      | 15   |       |
| Receptor       | -         | LRP2   | IPI00024292  |  | 7        |        |      |       |
| Receptor       | -         | MRC1   | IPI00027848  |  | 1        |        |      |       |
| Receptor       | -         | MS4A1  | IPI00007880  |  |          |        |      | 5     |
| Receptor       | -         | MYD88  | IPI00001062  |  | 3        |        |      | 6     |
| Receptor       | -         | NRP1   | IPI00299594  |  | 1        |        |      |       |
| Receptor       | -         | OLFM4  | IPI00022255  |  | 7        |        |      |       |
| Receptor       | -         | OPRS1  | IPI00218268  |  | 4        | 1      | 2    | 3     |
| Receptor       | -         | PDAP1  | IPI00013297  |  |          | 3      |      | 3     |
| Receptor       | -         | PHB2   | IPI00027252  | 62                                     | 66       | 40     | 27   | 88    |
| Receptor       | -         | PLXNB2   | IPI00398435  |  | 2        |        |      |       |
| Receptor       | -         | PPARBP   | IPI00427522  | 1                                      |          |        |      |       |
| Receptor       | -         | PTGIR  | IPI00016317  |  |          |        |      | 1     |
| Receptor       | -         | PTPRC  | IPI00306325  |  |          | 18     |      | 5     |
| Receptor       | -         | PTPRF  | IPI00465186  |  | 3        |        |      |       |
| Receptor       | -         | PVRL4  | IPI00043992  |  | 5        |        |      |       |
| Receptor       | -         | RBP1   | IPI00215743  |  | 62       |        |      |       |
| Receptor       | -         | RTN4RL2  | IPI00328746  |  |          | 1      |      |       |
| Receptor       | -         | SEC63  | IPI00218922  |  | 1        |        | 6    | 4     |
| Receptor       | -         | SELS   | IPI00020468  |  |          |        |      | 3     |
| Receptor       | -         | SIT1   | IPI00004407  |  |          |        |      | 1     |
| Receptor       | -         | SLAMF6   | IPI00101172  |  |          |        | 1    | 6     |
| Receptor       | -         | SRPR   | IPI00385267  |  |          |        |      |       |
| Receptor       | -         | SRPRB  | IPI00295098  | 6                                      | 2        |        | 4    | 5     |
| Receptor       | -         | TACSTD2  | IPI00297910  |  | 3        |        |      |       |
| Receptor       | -         | TFRC   | IPI00022462  | 26                                     | 41       | 5      | 7    | 10    |
| Receptor       | -         | TGFB11   | IPI00011663  |  | 9        |        |      |       |
| Receptor       | -         | THADA  | IPI00444843  | 68                                     |          | 34     | 23   | 53    |
| Receptor       | -         | THRAP4   | IPI00219430  |  |          | 2      |      |       |
| Receptor       | -         | THRAP6   | IPI00063213  |  |          |        | 2    |       |
| Receptor       | -         | TMED7  | IPI00428967  |  | 4        |        |      |       |

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| Protein family      | Subfamily  | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|---------------------|------------|--|--------------|--|----------|--------|------|-------|
|                     |            |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Receptor            | -          | TNPO3  | IPI00455125  | 17                                     | 5        | 15     | 14   | 15    |
| Receptor            | -          | TOMM22   | IPI00024976  |  |          |        |      | 2     |
| Receptor            | -          | TRAF2  | IPI00292635  | 58                                     | 18       | 70     | 56   | 191   |
| Receptor            | -          | TRAM1  | IPI00219111  |  |          |        |      | 3     |
| Receptor            | -          | TVB1 HUMAN   | IPI00003986  |  |          | 4      |      |       |
| Lipid binding       | -          | ACBD3  | IPI00009315  |  |          | 1      |      | 2     |
| Lipid binding       | -          | ANXA6  | IPI00221226  |  |          | 4      |      |       |
| Lipid binding       | -          | ANXA7  | IPI00514510  |  |          |        |      |       |
| Lipid binding       | -          | ANXA11   | IPI00414320  |  | 14       |        |      |       |
| Lipid binding       | -          | AP1G1  | IPI00643591  |  |          |        |      |       |
| Lipid binding       | -          | AP2A1  | IPI00304577  | 53                                     | 43       | 10     | 100  | 42    |
| Lipid binding       | -          | AP2A2  | IPI00016621  | 23                                     | 16       |        | 44   | 25    |
| Lipid binding       | -          | AP2M1  | IPI00022256  | 21                                     | 4        |        | 48   | 5     |
| Lipid binding       | -          | AP3B1  | IPI00021129  |  |          | 4      | 9    | 4     |
| Lipid binding       | -          | AP3D1  | IPI00719680  | 13                                     | 4        |        | 1    | 1     |
| Lipid binding       | -          | APOL2  | IPI00220007  | 4                                      | 1        | 1      |      | 1     |
| Lipid binding       | -          | APOL3  | IPI00302796  |  |          |        |      | 2     |
| Lipid binding       | -          | CD48   | IPI00013831  |  |          |        |      | 4     |
| Lipid binding       | -          | CD59   | IPI00011302  |  | 5        |        |      |       |
| Lipid binding       | -          | CHPT1  | IPI00329548  |  |          |        | 3    |       |
| Lipid binding       | -          | CLU  | IPI00400826  |  | 5        |        |      |       |
| Lipid binding       | -          | EEA1   | IPI00329536  |  | 17       |        |      |       |
| Lipid binding       | -          | FABP4  | IPI00215746  |  | 3        |        |      |       |
| Lipid binding       | -          | FABP5  | IPI00007797  | 7                                      | 9        | 8      | 12   | 21    |
| Lipid binding       | -          | GPA1   | IPI00021594  |  |          |        | 1    |       |
| Lipid binding       | -          | HIP1R  | IPI00244417  | 8                                      |          |        |      | 52    |
| Lipid binding       | -          | M11S1  | IPI00402233  | 3                                      |          | 1      |      | 2     |
| Lipid binding       | -          | NCF1   | IPI00027007  |  |          |        |      | 3     |
| Lipid binding       | -          | PGRMC2   | IPI00005202  |  | 10       |        |      |       |
| Lipid binding       | -          | PITPNB   | IPI00395939  |  |          |        | 1    |       |
| Lipid binding       | -          | RUFY1  | IPI00465429  |  |          |        | 1    |       |
| Lipid binding       | -          | SCP2   | IPI00026105  |  |          | 4      |      | 2     |
| Lipid binding       | -          | SNX9   | IPI00001883  |  |          |        | 3    | 2     |
| Lipid binding       | -          | SNX24  | IPI00022302  |  |          |        |      |       |
| Lipid binding       | -          | VCP  | IPI00478540  | 30                                     | 57       | 44     | 21   | 36    |
| Sugar binding       | -          | APCS   | IPI00022391  |  | 2        |        |      |       |
| Sugar binding       | -          | BSG  | IPI00218019  |  | 8        |        |      | 16    |
| Sugar binding       | -          | CD22   | IPI00295133  |  |          |        |      | 1     |
| Sugar binding       | -          | CSPG2  | IPI00009802  | 1                                      |          |        |      |       |
| Sugar binding       | -          | LGALS1   | IPI00219219  | 4                                      | 2        |        | 8    |       |
| Sugar binding       | -          | LGALS7   | IPI00219221  |  |          |        |      | 10    |
| Sugar binding       | -          | LGALS8   | IPI00215644  |  | 1        |        |      |       |
| Sugar binding       | -          | PRG2   | IPI00010341  |  | 4        |        |      |       |
| Sugar binding       | -          | PRG3   | IPI00005778  |  | 1        |        |      |       |
| Sugar binding       | -          | SVEP1  | IPI00301288  |  | 6        |        |      |       |
| Sugar binding       | -          | VTN  | IPI00298971  |  | 3        |        |      |       |
| Metabolite binding  | Calcium    | CALR   | IPI00020599  | 6                                      | 11       |        | 2    |       |
| Metabolite binding  | Calcium    | CAPS   | IPI00465352  |  | 6        |        |      |       |
| Metabolite binding  | Calcium    | CHP  | IPI00218924  |  | 5        | 2      | 6    | 9     |
| Metabolite binding  | Calcium    | HPCAL1   | IPI00219344  |  |          |        |      | 7     |
| Metabolite binding  | Calcium    | HRNR   | IPI00398625  | 26                                     | 55       | 23     | 36   | 19    |
| Metabolite binding  | Calcium    | S100A7   | IPI00328396  | 1                                      |          |        |      | 5     |
| Metabolite binding  | Calcium    | S100A8   | IPI00007047  | 6                                      | 7        |        | 4    | 10    |
| Metabolite binding  | Calcium    | S100A9   | IPI00027462  | 7                                      | 7        | 2      |      | 12    |
| Metabolite binding  | Calcium    | S100A11  | IPI00013895  | 3                                      | 13       |        | 5    |       |
| Metabolite binding  | Calcium    | S100A14  | IPI00010214  | 1                                      |          |        |      |       |
| Metabolite binding  | Calcium    | S100A16  | IPI00062120  |  | 3        | 1      |      |       |
| Metabolite binding  | Calcium    | S100P  | IPI00017526  |  | 12       |        |      |       |
| Metabolite binding  | Copper     | SCO2   | IPI00014458  | 5                                      |          |        |      | 6     |
| Metabolite binding  | Metal      | FHL1   | IPI00055606  |  | 8        |        |      |       |
| Metabolite binding  | Metal      | MT1G   | IPI00413064  | 3                                      | 3        | 1      | 4    |       |
| Metabolite binding  | Metal      | SELK   | IPI00428100  |  |          | 1      |      |       |
| Metabolite binding  | Metal      | SELT   | IPI00008351  |  | 6        |        |      | 4     |
| Metabolite binding  | Zinc       | CRIP2  | IPI00006034  |  | 2        |        |      |       |
| Metabolite binding  | Zinc       | LIMS2  | IPI00398576  |  | 2        |        |      |       |
| Metabolite binding  | Zinc       | LIMS3  | IPI00244212  | 47                                     | 16       | 28     | 11   | 13    |
| Metabolite binding  | Zinc       | LPXN   | IPI00299066  |  |          |        |      | 10    |
| Metabolite binding  | Zinc       | LUC7L2   | IPI00006932  | 7                                      | 2        |        | 4    | 7     |
| Metabolite binding  | Zinc       | PREI3  | IPI00386122  |  |          | 2      |      | 3     |
| Metabolite binding  | Zinc       | PREI3  | IPI00477800  |  |          |        |      | 4     |
| Metabolite binding  | Zinc       | SPIRE1   | IPI00171145  | 3                                      |          |        |      |       |
| Metabolite binding  | Zinc       | ZFYVE26  | IPI00470896  | 3                                      | 2        | 1      | 7    |       |
| Metabolite binding  | -          | HEBP1  | IPI00148063  | 4                                      | 24       | 5      | 4    |       |
| Metabolite binding  | -          | SCARA5   | IPI00399026  |  |          |        |      | 6     |
| Metabolite binding  | -          | SEC14L1  | IPI00021887  |  |          |        |      | 2     |
| Vesicle Trafficking | ER / Golgi | COG3   | IPI00414858  |  |          |        |      | 5     |
| Vesicle Trafficking | ER / Golgi | COG6   | IPI00642611  |  |          | 5      |      |       |
| Vesicle Trafficking | ER / Golgi | COG8   | IPI00140201  |  |          |        |      | 6     |
| Vesicle Trafficking | ER / Golgi | COPG   | IPI00001890  |  | 4        |        |      |       |
| Vesicle Trafficking | ER / Golgi | DAB2   | IPI00179438  |  | 22       |        |      |       |
| Vesicle Trafficking | ER / Golgi | LRMP   | IPI00006158  |  |          |        |      | 24    |
| Vesicle Trafficking | ER / Golgi | RER1   | IPI00005728  |  | 10       |        |      | 6     |
| Vesicle Trafficking | ER / Golgi | RER1   | IPI00549335  | 2                                      |          | 3      |      |       |
| Vesicle Trafficking | ER / Golgi | SCAMP2   | IPI00218850  |  | 1        |        |      |       |
| Vesicle Trafficking | ER / Golgi | SCAMP3   | IPI00306382  | 2                                      |          |        |      |       |
| Vesicle Trafficking | ER / Golgi | SCAMP4   | IPI00056310  |  | 1        |        | 2    |       |
| Vesicle Trafficking | ER / Golgi | SCFD1  | IPI00479223  | 3                                      | 3        |        |      |       |
| Vesicle Trafficking | ER / Golgi | SEC15L2  | IPI00294133  |  | 2        |        |      |       |
| Vesicle Trafficking | ER / Golgi | SEC31L1  | IPI00515103  |  | 6        |        |      |       |
| Vesicle Trafficking | ER / Golgi | SSR1   | IPI00301021  |  | 2        |        |      | 3     |
| Vesicle Trafficking | ER / Golgi | SSR4   | IPI00647461  | 3                                      | 9        | 3      | 4    | 9     |
| Vesicle Trafficking | ER / Golgi | TMED2  | IPI00016608  |  | 5        |        | 1    | 2     |
| Vesicle Trafficking | ER / Golgi | TMED9  | IPI00023542  |  | 4        |        | 2    |       |
| Vesicle Trafficking | ER / Golgi | TMED10   | IPI00028055  |  | 5        | 3      | 1    | 3     |
| Vesicle Trafficking | ER / Golgi | TRAPPC8A   | IPI00012211  |  |          |        |      | 1     |
| Vesicle Trafficking | ER / Golgi | TRAPPC6B   | IPI00384047  |  |          |        | 1    |       |
| Vesicle Trafficking | ER / Golgi | VAMP2  | IPI00477183  | 1                                      |          |        |      | 9     |
| Vesicle Trafficking | ER / Golgi | VAMP5  | IPI00293756  |  |          | 3      |      |       |
| Vesicle Trafficking | ER / Golgi | VAMP8  | IPI00030911  | 9                                      | 5        |        |      | 5     |
| Vesicle Trafficking | ER / Golgi | VAPA   | IPI00374657  | 1                                      | 4        |        | 2    |       |
| Vesicle Trafficking | ER / Golgi | VAPB   | IPI00006211  |  | 4        |        |      |       |
| Vesicle Trafficking | ER / Golgi | VPS13C   | IPI00465428  |  |          | 17     |      | 19    |
| Vesicle Trafficking | ER / Golgi | VPS18  | IPI00001985  |  | 3        |        |      |       |
| Vesicle Trafficking | ER / Golgi | VPS29  | IPI00184284  |  | 1        |        |      |       |
| Vesicle Trafficking | ER / Golgi | VPS33A   | IPI00073179  |  |          | 2      |      | 2     |
| Vesicle Trafficking | ER / Golgi | VPS37B   | IPI00002926  |  |          |        |      |       |
| Vesicle Trafficking | ER / Golgi | WDR48  | IPI00658210  | 9                                      |          | 1      |      | 3     |
| Unknown             | -          | 67 KDA PROTEIN.  | IPI00640857  | 1                                      |          |        | 3    | 2     |
| Unknown             | -          | 75KDA PROTEIN.   | IPI00052996  | 1                                      |          |        |      |       |
| Unknown             | -          | 90 KDA PROTEIN.  | IPI00479092  |  |          |        |      | 1     |

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| Protein family | Subfamily | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|----------------|-----------|--|--------------|--|----------|--------|------|-------|
|                |           |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Unknown        | -         | AAAS   | IPI00024143  |  |          | 8      |      |       |
| Unknown        | -         | ABC1   | IPI00464999  |  |          |        | 2    |       |
| Unknown        | -         | AFF2   | IPI00020903  |  |          |        |      | 23    |
| Unknown        | -         | AMMECR1  | IPI00022258  |  |          |        |      | 3     |
| Unknown        | -         | ARMET  | IPI00328748  |  | 7        | 5      | 1    | 4     |
| Unknown        | -         | Ataxin-10  | IPI00642301  |  |          |        | 1    |       |
| Unknown        | -         | AUP1   | IPI00001891  |  |          |        |      | 4     |
| Unknown        | -         | AYP1   | IPI00382985  |  |          | 1      |      |       |
| Unknown        | -         | BAIAP2L1   | IPI00179326  | 1                                      |          |        |      |       |
| Unknown        | -         | BBC3   | IPI00444436  |  |          |        |      | 1     |
| Unknown        | -         | BC002942   | IPI00385495  | 6                                      |          |        |      |       |
| Unknown        | -         | BOLA2  | IPI00301434  |  | 2        |        | 4    | 4     |
| Unknown        | -         | BRAIN MY047 PROTEIN.   | IPI00029397  | 1                                      |          | 2      |      | 4     |
| Unknown        | -         | BRD4-NUT FUSION ONCOPROTEIN.   | IPI00465212  |  | 1        | 25     | 5    |       |
| Unknown        | -         | BR13BP   | IPI00103599  |  |          | 3      | 3    | 14    |
| Unknown        | -         | BRRN1  | IPI00299507  |  |          |        |      | 2     |
| Unknown        | -         | C1orf35  | IPI00293746  | 2                                      |          |        | 1    | 4     |
| Unknown        | -         | C1orf45  | IPI00514908  | 3                                      | 12       | 9      | 12   | 2     |
| Unknown        | -         | C1orf68  | IPI00023078  |  | 3        | 3      | 3    | 1     |
| Unknown        | -         | C1orf112   | IPI00178512  | 4                                      |          | 3      |      |       |
| Unknown        | -         | C1orf128   | IPI00015351  |  | 3        | 2      | 6    | 6     |
| Unknown        | -         | C2orf18  | IPI00550440  |  | 4        | 2      | 1    |       |
| Unknown        | -         | C2orf18  | IPI00643625  |  |          | 2      | 2    |       |
| Unknown        | -         | C2orf28  | IPI00412376  |  |          |        |      | 1     |
| Unknown        | -         | C2orf30  | IPI00549597  |  | 1        |        |      |       |
| Unknown        | -         | C3orf10  | IPI00000296  |  |          |        |      | 2     |
| Unknown        | -         | C3orf37  | IPI00024618  |  |          |        |      | 3     |
| Unknown        | -         | C3orf60  | IPI00399053  | 3                                      |          |        | 3    | 3     |
| Unknown        | -         | C4orf9   | IPI00022613  |  |          | 5      |      |       |
| Unknown        | -         | C6orf1   | IPI00328453  | 3                                      |          |        |      |       |
| Unknown        | -         | C6orf60  | IPI00413868  |  |          |        |      | 1     |
| Unknown        | -         | C6orf66  | IPI00023064  |  |          |        | 3    | 6     |
| Unknown        | -         | C6orf111   | IPI00165995  |  |          |        | 2    | 1     |
| Unknown        | -         | C6orf129   | IPI00513945  |  |          | 2      | 2    | 3     |
| Unknown        | -         | C6orf167   | IPI00394816  |  |          | 8      |      |       |
| Unknown        | -         | C7orf24  | IPI00031564  |  | 5        | 4      | 5    | 10    |
| Unknown        | -         | C7orf27  | IPI00658145  | 6                                      |          | 9      | 10   | 7     |
| Unknown        | -         | C8orf30A   | IPI00009335  |  |          |        |      | 1     |
| Unknown        | -         | C8orf41  | IPI00306207  |  |          | 1      |      |       |
| Unknown        | -         | C8orf55  | IPI00171421  |  | 2        | 10     | 2    | 3     |
| Unknown        | -         | C9orf5   | IPI00607576  |  | 2        | 1      |      | 1     |
| Unknown        | -         | C9orf40  | IPI00017504  |  |          |        |      |       |
| Unknown        | -         | C9orf46  | IPI00307547  |  | 4        | 2      |      |       |
| Unknown        | -         | C9orf77  | IPI00643071  |  |          | 3      |      |       |
| Unknown        | -         | C9orf88  | IPI00456750  |  | 17       |        |      |       |
| Unknown        | -         | C9orf114   | IPI00418229  |  |          | 1      |      |       |
| Unknown        | -         | C10orf57   | IPI00290807  |  | 1        |        |      |       |
| Unknown        | -         | C10orf64   | IPI00175026  |  |          |        |      | 25    |
| Unknown        | -         | C10orf64   | IPI00646942  |  |          |        |      | 76    |
| Unknown        | -         | C10orf70   | IPI00020510  | 6                                      |          |        |      |       |
| Unknown        | -         | C10orf104  | IPI00060893  | 4                                      |          | 3      | 2    | 2     |
| Unknown        | -         | C10orf119  | IPI00478758  |  |          |        |      | 1     |
| Unknown        | -         | C10orf137  | IPI00183424  |  |          |        |      | 2     |
| Unknown        | -         | C11orf51   | IPI00022312  |  |          |        |      | 1     |
| Unknown        | -         | C11orf52   | IPI00059185  |  | 4        |        |      |       |
| Unknown        | -         | C12orf34   | IPI00180066  |  |          | 8      |      |       |
| Unknown        | -         | C13orf1  | IPI00030959  |  |          |        |      | 1     |
| Unknown        | -         | C14orf125  | IPI00329192  | 9                                      |          |        |      |       |
| Unknown        | -         | C14orf129  | IPI00009374  |  |          |        | 3    | 2     |
| Unknown        | -         | C14orf166  | IPI00006980  |  |          |        | 5    | 7     |
| Unknown        | -         | C14orf173  | IPI00008339  | 5                                      |          |        |      |       |
| Unknown        | -         | C17orf63   | IPI00291010  | 17                                     |          | 50     | 49   | 15    |
| Unknown        | -         | C18orf19   | IPI00290799  |  |          |        |      | 4     |
| Unknown        | -         | C18orf24   | IPI00059912  |  |          |        |      | 2     |
| Unknown        | -         | C18orf25   | IPI00059687  | 1                                      |          |        |      |       |
| Unknown        | -         | C18orf45   | IPI00645638  |  |          |        |      | 2     |
| Unknown        | -         | C18orf55   | IPI00306439  |  |          |        | 1    |       |
| Unknown        | -         | C19orf28   | IPI00166640  | 2                                      |          |        |      |       |
| Unknown        | -         | C20orf43   | IPI00297121  | 5                                      |          |        |      | 6     |
| Unknown        | -         | C20orf52   | IPI00016046  |  |          |        |      | 2     |
| Unknown        | -         | C20orf80   | IPI00334710  | 2                                      |          |        |      | 4     |
| Unknown        | -         | C21orf33   | IPI00024913  | 1                                      |          | 2      | 6    | 1     |
| Unknown        | -         | C21orf70   | IPI00027898  | 12                                     |          |        |      |       |
| Unknown        | -         | C21orf124  | IPI00642485  |  |          |        |      | 36    |
| Unknown        | -         | C22orf18   | IPI00031566  |  |          |        |      | 4     |
| Unknown        | -         | CCDC6  | IPI00000634  |  |          |        |      | 1     |
| Unknown        | -         | CCDC43   | IPI00329147  | 3                                      |          |        |      |       |
| Unknown        | -         | CCDC44   | IPI00019903  | 2                                      |          |        |      |       |
| Unknown        | -         | CCDC56   | IPI00022277  |  |          |        | 3    |       |
| Unknown        | -         | CCDC58   | IPI00046828  |  |          |        | 2    |       |
| Unknown        | -         | CCDC59   | IPI00329594  | 1                                      |          | 1      | 1    |       |
| Unknown        | -         | CCDC69   | IPI00410093  |  |          |        |      | 4     |
| Unknown        | -         | CCL28  | IPI00221002  |  |          |        |      | 2     |
| Unknown        | -         | CD81   | IPI00657752  |  |          |        |      | 1     |
| Unknown        | -         | CDKAL1   | IPI00015713  |  |          |        |      | 1     |
| Unknown        | -         | CGI-38   | IPI00306413  |  | 25       |        |      |       |
| Unknown        | -         | CHAC2  | IPI00103047  |  |          |        |      | 2     |
| Unknown        | -         | CHCHD1   | IPI00060107  | 2                                      |          |        |      |       |
| Unknown        | -         | CHCHD4   | IPI00177428  |  |          |        | 1    |       |
| Unknown        | -         | CHMP4B   | IPI00025974  |  |          |        |      | 1     |
| Unknown        | -         | CKAP2  | IPI00071824  |  |          |        |      | 3     |
| Unknown        | -         | CLN6   | IPI00016597  |  |          |        |      | 3     |
| Unknown        | -         | CLNS1A   | IPI00004795  | 3                                      |          |        |      |       |
| Unknown        | -         | COBLL1   | IPI00007133  |  | 28       |        |      |       |
| Unknown        | -         | COL1A1   | IPI00297646  |  | 2        |        |      |       |
| Unknown        | -         | COMMD4   | IPI00413500  |  |          |        |      | 3     |
| Unknown        | -         | COMMD9   | IPI00305212  |  |          |        |      | 2     |
| Unknown        | -         | COQ7   | IPI00294073  |  |          |        | 3    |       |
| Unknown        | -         | COX4NB   | IPI00005740  |  | 1        |        |      |       |
| Unknown        | -         | CRR9   | IPI00151358  |  |          |        |      | 1     |
| Unknown        | -         | CTDP1  | IPI00647363  | 1                                      |          |        |      |       |
| Unknown        | -         | CXorf15  | IPI00019994  | 3                                      |          |        |      | 2     |
| Unknown        | -         | CXorf56  | IPI00335006  | 1                                      |          |        |      |       |
| Unknown        | -         | CYB5B  | IPI00303954  |  |          |        | 1    |       |
| Unknown        | -         | DCUN1D5  | IPI00165361  | 1                                      |          |        |      |       |
| Unknown        | -         | DKFZp586C1924  | IPI00031064  |  | 2        | 2      | 3    | 6     |
| Unknown        | -         | DKFZp667B1218  | IPI00174390  | 8                                      | 9        | 5      | 2    | 10    |
| Unknown        | -         | DKFZp686K16132   | IPI00397883  | 52                                     | 19       |        | 9    | 1     |
| Unknown        | -         | DOPEY2   | IPI00294653  |  |          |        |      | 6     |
| Unknown        | -         | DREV1  | IPI00100239  | 1                                      |          |        |      |       |

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| Protein family | Subfamily | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|----------------|-----------|--|--------------|--|----------|--------|------|-------|
|                |           |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Unknown        | -         | DSCR2  | IPI00030770  |  |          |        | 1    |       |
| Unknown        | -         | DYM  | IPI00296211  |  |          | 2      |      | 6     |
| Unknown        | -         | E2IG5 PROTEIN.   | IPI00554692  | 1                                      |          | 1      | 1    | 1     |
| Unknown        | -         | EAF1   | IPI00328258  |  |          |        |      | 1     |
| Unknown        | -         | EAF2   | IPI00093988  |  |          |        |      | 6     |
| Unknown        | -         | EFHD1  | IPI00031091  |  | 2        |        |      |       |
| Unknown        | -         | EFHD2  | IPI00060181  |  | 2        |        | 1    |       |
| Unknown        | -         | EI24   | IPI00023185  |  |          |        |      | 3     |
| Unknown        | -         | ELOVL1   | IPI00010187  | 1                                      |          |        | 2    | 3     |
| Unknown        | -         | EPDR1  | IPI00657648  | 33                                     | 29       | 108    |      |       |
| Unknown        | -         | EXOC1  | IPI00019427  |  | 1        | 1      |      |       |
| Unknown        | -         | EXOC4  | IPI00059279  |  | 2        |        |      |       |
| Unknown        | -         | F11R   | IPI00001754  |  | 2        |        |      |       |
| Unknown        | -         | FADS1  | IPI00385842  |  |          |        | 1    |       |
| Unknown        | -         | FAM32A   | IPI00022402  |  |          | 3      |      | 5     |
| Unknown        | -         | FAM33A   | IPI00103149  |  |          |        |      | 2     |
| Unknown        | -         | FAM36A   | IPI00103057  | 2                                      | 2        | 2      | 3    | 6     |
| Unknown        | -         | FAM49A   | IPI00006574  |  | 3        |        |      |       |
| Unknown        | -         | FAM49B   | IPI00303318  |  |          |        | 3    |       |
| Unknown        | -         | FAM58A   | IPI00395371  | 6                                      |          | 8      |      | 10    |
| Unknown        | -         | FAM62A   | IPI00022143  | 4                                      |          | 1      | 10   | 10    |
| Unknown        | -         | FAM62B   | IPI00409635  | 4                                      | 1        | 13     | 3    |       |
| Unknown        | -         | FAM83A   | IPI00328846  | 5                                      |          |        | 152  |       |
| Unknown        | -         | FAM96B   | IPI00007024  | 2                                      | 4        | 2      | 2    | 7     |
| Unknown        | -         | FAM98A   | IPI00174442  |  |          |        |      | 1     |
| Unknown        | -         | FAM105B  | IPI00101734  |  |          |        |      | 1     |
| Unknown        | -         | FER1L3   | IPI00021048  |  | 19       |        |      |       |
| Unknown        | -         | FGFR1OP2   | IPI00014903  |  |          | 6      |      | 2     |
| Unknown        | -         | FKSG24   | IPI00186732  |  |          |        |      | 2     |
| Unknown        | -         | FLAD1  | IPI00060574  |  |          |        |      | 1     |
| Unknown        | -         | FLJ10808   | IPI00023647  |  |          | 6      | 7    | 11    |
| Unknown        | -         | FLJ12688   | IPI00034201  |  |          |        |      | 1     |
| Unknown        | -         | FLJ13910   | IPI00009707  |  |          |        | 1    |       |
| Unknown        | -         | FLJ14346   | IPI00410094  |  |          |        |      | 3     |
| Unknown        | -         | FLJ14803   | IPI00045764  |  |          |        | 4    | 10    |
| Unknown        | -         | FLJ20272   | IPI00183938  | 3                                      |          |        |      | 3     |
| Unknown        | -         | FLJ20397   | IPI00242630  | 4                                      |          | 2      | 3    |       |
| Unknown        | -         | FLJ20625   | IPI00016670  |  | 1        |        | 2    | 12    |
| Unknown        | -         | FLJ20699   | IPI00550644  |  |          |        | 2    |       |
| Unknown        | -         | FLJ22555   | IPI00291751  |  | 4        | 3      | 4    | 5     |
| Unknown        | -         | FLJ34931   | IPI00397879  |  |          |        |      | 2     |
| Unknown        | -         | FLJ36004   | IPI00167858  | 1                                      |          |        |      |       |
| Unknown        | -         | FLJ46072   | IPI00394829  |  |          |        | 22   |       |
| Unknown        | -         | FLOTILLIN 1.   | IPI00514818  |  |          |        | 1    |       |
| Unknown        | -         | FRMD6  | IPI00043622  |  |          | 1      |      |       |
| Unknown        | -         | FRYL   | IPI00159652  |  |          | 9      |      | 20    |
| Unknown        | -         | GALGT PROTEIN.   | IPI00384413  |  |          |        | 1    |       |
| Unknown        | -         | GBAS   | IPI00016077  | 3                                      |          |        | 3    |       |
| Unknown        | -         | GCET2  | IPI00167003  |  |          |        |      | 2     |
| Unknown        | -         | GDF1   | IPI00019462  | 1                                      |          |        |      |       |
| Unknown        | -         | GHITM  | IPI00023567  |  |          |        | 2    | 6     |
| Unknown        | -         | GOLGA3   | IPI00305267  | 4                                      |          |        |      |       |
| Unknown        | -         | GOLGA7   | IPI00395534  | 1                                      |          |        |      |       |
| Unknown        | -         | GOLGA7   | IPI00480022  |  | 2        | 5      |      | 9     |
| Unknown        | -         | GOLT1B   | IPI00007061  |  |          |        |      | 1     |
| Unknown        | -         | GPSN2  | IPI00644037  | 8                                      | 29       | 18     |      | 14    |
| Unknown        | -         | GRAMD1A  | IPI00180434  | 51                                     |          | 170    | 206  | 129   |
| Unknown        | -         | GRAMD1B  | IPI00008177  | 3                                      |          |        |      |       |
| Unknown        | -         | GRAMD1C  | IPI00217850  | 9                                      |          |        |      |       |
| Unknown        | -         | GRAMD3   | IPI00305868  | 3                                      |          |        |      |       |
| Unknown        | -         | GTL3   | IPI00001655  |  |          | 2      |      | 7     |
| Unknown        | -         | HBLD1  | IPI00376195  |  |          | 2      |      |       |
| Unknown        | -         | hCAP-D3  | IPI00000899  | 4                                      |          | 7      |      | 3     |
| Unknown        | -         | hCAP-G   | IPI00106495  |  |          |        |      | 12    |
| Unknown        | -         | HDDC2  | IPI00386751  |  |          |        | 1    |       |
| Unknown        | -         | HDBG2  | IPI00013290  |  |          | 3      | 1    | 4     |
| Unknown        | -         | HERV-FRD   | IPI00398064  |  | 4        |        |      |       |
| Unknown        | -         | hfl-B5   | IPI00000495  |  |          |        | 2    | 7     |
| Unknown        | -         | HIGD1A   | IPI00176824  | 3                                      | 1        | 2      | 2    |       |
| Unknown        | -         | HPS6   | IPI00015505  |  |          |        |      | 1     |
| Unknown        | -         | HSPC117  | IPI00550689  | 2                                      | 2        | 5      | 2    |       |
| Unknown        | -         | HSPC138  | IPI00021637  |  |          |        | 1    |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN DKFZP686E23209.   | IPI00470798  |  | 4        |        |      |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN FLJ46024.   | IPI00444177  |  | 1        |        |      |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 051477.  | IPI00385962  |  | 2        |        |      |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 066073.  | IPI00044536  |  |          |        |      | 1     |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 067264.  | IPI00056251  |  | 1        |        |      |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 067436.  | IPI00056985  |  |          |        |      | 1     |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 067755.  | IPI00058119  |  |          | 2      |      |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 067988.  | IPI00058956  |  |          |        |      | 1     |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 070964.  | IPI00053204  | 5                                      | 1        |        |      |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 074598.  | IPI00056710  |  |          |        |      | 1     |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 077601.  | IPI00051491  |  |          |        |      | 1     |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 089118.  | IPI00077192  | 1                                      |          |        |      |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 089347.  | IPI00102791  |  |          |        | 5    |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 090110.  | IPI00090052  |  |          |        | 1    |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 091115.  | IPI00080641  | 1                                      |          |        |      |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 092572.  | IPI00094646  | 5                                      |          |        |      |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 093117.  | IPI00083315  |  | 3        |        |      |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 093525.  | IPI00084638  | 4                                      |          |        |      |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 094022.  | IPI00095488  |  |          |        |      | 1     |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 094185.  | IPI00096060  |  |          |        | 1    |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 094427.  | IPI00097031  |  |          |        |      | 1     |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 095377.  | IPI00086787  |  |          |        |      | 1     |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 095701.  | IPI00088092  |  | 1        |        |      |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 096748.  | IPI00078833  |  |          |        |      | 1     |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 099313.  | IPI00092745  |  | 1        |        |      |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 103875.  | IPI00083209  | 1                                      |          |        |      |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 104170.  | IPI00093000  | 1                                      |          |        |      | 5     |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 108488.  | IPI00077790  |  |          |        |      | 2     |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 120423.  | IPI00150581  |  | 1        |        |      |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 120656.  | IPI00151048  |  |          |        | 1    |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 120711.  | IPI00151187  |  |          |        |      | 1     |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 121796.  | IPI00146153  |  |          |        | 1    |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 298883.  | IPI00259288  |  |          |        |      | 1     |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 299754.  | IPI00245792  |  |          |        | 2    | 1     |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 303855.  | IPI00260484  |  |          | 1      |      |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 304252.  | IPI00244572  |  |          |        | 1    | 2     |
| Unknown        | -         | HYPOTHETICAL PROTEIN XP 353184.  | IPI00374663  | 2                                      |          |        |      |       |
| Unknown        | -         | HYPOTHETICAL PROTEIN.  | IPI00303912  | 2                                      |          | 2      |      |       |

| Protein family | Subfamily | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|----------------|-----------|--|--------------|--|----------|--------|------|-------|
|                |           |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Unknown        | -         | HYPOTHETICAL PROTEIN.  | IPI00719079  |  | 2        |        |      |       |
| Unknown        | -         | IPI00005505.1  | IPI00005505  | 1                                      |          |        |      |       |
| Unknown        | -         | IPI00040071.1  | IPI00040071  |  | 3        |        |      |       |
| Unknown        | -         | IPI00068275.1  | IPI00068275  | 5                                      |          |        |      |       |
| Unknown        | -         | IPI00075282.1  | IPI00075282  |  |          |        | 1    |       |
| Unknown        | -         | IPI00098658.4  | IPI00098658  | 2                                      |          |        |      |       |
| Unknown        | -         | IPI00100064.1  | IPI00100064  |  |          | 2      |      |       |
| Unknown        | -         | IPI00104877.1  | IPI00104877  | 3                                      |          | 1      |      |       |
| Unknown        | -         | IPI00150225.1  | IPI00150225  | 1                                      |          |        |      |       |
| Unknown        | -         | IPI00154147.1  | IPI00154147  | 5                                      |          |        |      |       |
| Unknown        | -         | IPI00157357.1  | IPI00157357  |  |          |        | 2    | 3     |
| Unknown        | -         | IPI00179072.1  | IPI00179072  |  |          |        | 5    |       |
| Unknown        | -         | IPI00180955.1  | IPI00180955  |  |          |        |      | 4     |
| Unknown        | -         | IPI00221136.3  | IPI00221136  |  |          |        |      | 2     |
| Unknown        | -         | IPI00333081.1  | IPI00333081  | 3                                      | 3        |        | 3    |       |
| Unknown        | -         | IPI00333348.1  | IPI00333348  | 1                                      |          |        |      |       |
| Unknown        | -         | IPI00335775.1  | IPI00335775  |  |          | 5      |      |       |
| Unknown        | -         | IPI00396487.1  | IPI00396487  |  | 1        |        |      |       |
| Unknown        | -         | IPI00411598.1  | IPI00411598  |  | 1        |        |      |       |
| Unknown        | -         | IPI00413331.1  | IPI00413331  |  |          | 1      |      |       |
| Unknown        | -         | IPI00414413.1  | IPI00414413  | 11                                     |          |        |      |       |
| Unknown        | -         | IQCC   | IPI00018690  |  |          |        |      | 1     |
| Unknown        | -         | JAGN1  | IPI00329025  |  |          |        | 2    |       |
| Unknown        | -         | KIAA0101   | IPI00014147  |  |          |        |      | 2     |
| Unknown        | -         | KIAA0103   | IPI00014149  |  | 4        | 1      |      | 1     |
| Unknown        | -         | KIAA0133   | IPI00028980  | 3                                      |          | 27     |      | 9     |
| Unknown        | -         | KIAA0152   | IPI00029046  |  | 4        | 5      |      | 2     |
| Unknown        | -         | KIAA0196   | IPI00029175  |  |          |        |      | 3     |
| Unknown        | -         | KIAA0261   | IPI00412441  |  |          |        |      | 2     |
| Unknown        | -         | KIAA0310   | IPI00641384  | 30                                     |          | 64     | 62   | 60    |
| Unknown        | -         | KIAA0368   | IPI00157790  | 37                                     |          |        | 2    | 6     |
| Unknown        | -         | KIAA0372   | IPI00005634  |  |          |        |      | 2     |
| Unknown        | -         | KIAA0404   | IPI00304926  | 2                                      |          |        |      |       |
| Unknown        | -         | KIAA0406   | IPI00011702  |  |          | 10     | 4    |       |
| Unknown        | -         | KIAA0528   | IPI00465142  | 102                                    | 45       | 366    | 88   | 225   |
| Unknown        | -         | KIAA0683   | IPI00016868  |  |          |        | 3    |       |
| Unknown        | -         | KIAA0690   | IPI00101186  | 1                                      |          |        | 1    | 3     |
| Unknown        | -         | KIAA0746   | IPI00470809  |  |          |        |      | 7     |
| Unknown        | -         | KIAA0802   | IPI00411635  |  |          |        |      | 6     |
| Unknown        | -         | KIAA0922   | IPI00021671  |  |          |        |      | 1     |
| Unknown        | -         | KIAA0963   | IPI00024900  |  |          |        |      | 4     |
| Unknown        | -         | KIAA0999   | IPI00440492  |  |          |        | 1    | 2     |
| Unknown        | -         | KIAA1033   | IPI00298991  | 1                                      |          |        |      | 1     |
| Unknown        | -         | KIAA1414   | IPI00479069  |  |          |        |      | 1     |
| Unknown        | -         | KIAA1430   | IPI00075805  |  |          |        |      |       |
| Unknown        | -         | KIAA1524   | IPI00154283  | 8                                      |          |        |      |       |
| Unknown        | -         | KIAA1618   | IPI00242962  | 8                                      |          | 86     | 65   |       |
| Unknown        | -         | KIAA1632   | IPI00400765  | 4                                      |          | 10     |      | 7     |
| Unknown        | -         | KIAA1715   | IPI00028369  | 1                                      |          |        | 7    |       |
| Unknown        | -         | KIAA1787   | IPI00064219  |  |          |        |      |       |
| Unknown        | -         | KIAA1794   | IPI00477345  | 68                                     |          | 40     |      | 28    |
| Unknown        | -         | KIAA1797   | IPI00383607  | 9                                      |          | 9      |      | 13    |
| Unknown        | -         | KIAA1833   | IPI00376747  | 4                                      | 7        |        |      | 7     |
| Unknown        | -         | KIAA1840   | IPI00101923  |  |          | 4      | 8    | 5     |
| Unknown        | -         | KIAA1967   | IPI00182757  |  |          | 1      |      |       |
| Unknown        | -         | KIAA2010   | IPI00217013  | 25                                     | 10       | 50     | 18   | 30    |
| Unknown        | -         | KTN1   | IPI00328753  |  |          |        | 2    |       |
| Unknown        | -         | LAMP2  | IPI00216172  |  | 1        |        |      |       |
| Unknown        | -         | LANCL3   | IPI00643639  |  |          |        | 1    |       |
| Unknown        | -         | LAS1L  | IPI00641990  | 2                                      |          |        |      |       |
| Unknown        | -         | LETM1  | IPI00017592  |  |          | 2      |      | 1     |
| Unknown        | -         | LGP1   | IPI00427501  | 1                                      |          |        |      | 12    |
| Unknown        | -         | LIMD2  | IPI00549972  | 5                                      |          | 3      | 6    | 4     |
| Unknown        | -         | LOC51035   | IPI00396563  |  |          |        |      | 1     |
| Unknown        | -         | LOC90580   | IPI00157215  | 6                                      | 3        | 6      | 9    | 8     |
| Unknown        | -         | LOC92345   | IPI00063219  | 1                                      |          |        |      | 3     |
| Unknown        | -         | LOC116143  | IPI00465211  |  |          |        | 1    | 5     |
| Unknown        | -         | LOC128977  | IPI00418459  |  |          |        | 27   | 65    |
| Unknown        | -         | LOC129138  | IPI00025746  |  |          |        |      | 1     |
| Unknown        | -         | LOC146206 PROTEIN.   | IPI00384567  |  |          |        |      | 3     |
| Unknown        | -         | LOC203547  | IPI00334343  |  |          |        |      | 1     |
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| Unknown        | -         | LOC339766  | IPI00216817  |  | 17       |        |      | 3     |
| Unknown        | -         | LOC388015  | IPI00375947  |  |          |        |      |       |
| Unknown        | -         | LOC388568  | IPI00398588  |  |          | 2      |      | 10    |
| Unknown        | -         | LOC391352  | IPI00397191  |  | 1        |        | 1    | 1     |
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| Unknown        | -         | LOC401531  | IPI00401259  |  |          |        |      | 3     |
| Unknown        | -         | LOC441454  | IPI00454810  |  |          |        |      | 1     |
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| Unknown        | -         | LOC493856  | IPI00166865  |  |          |        |      | 5     |
| Unknown        | -         | LOC494150 PROTEIN.   | IPI00386435  |  |          | 3      |      |       |
| Unknown        | -         | LRBA   | IPI00002255  |  |          |        |      | 28    |
| Unknown        | -         | LSM12  | IPI00410324  |  |          | 2      | 2    | 1     |
| Unknown        | -         | LYSMD2   | IPI00216874  |  |          | 2      |      |       |
| Unknown        | -         | M6PRBP1  | IPI00303882  |  | 4        |        |      |       |
| Unknown        | -         | MAC30  | IPI00020004  |  | 2        |        |      | 2     |
| Unknown        | -         | MAD1L1   | IPI00470519  |  |          |        | 7    |       |
| Unknown        | -         | MAEA   | IPI00607605  |  |          |        | 1    |       |
| Unknown        | -         | MAGED1   | IPI00398845  |  |          | 4      |      |       |
| Unknown        | -         | MAPBP1P  | IPI00477441  |  |          | 1      |      | 3     |
| Unknown        | -         | MESDC2   | IPI00399089  |  | 3        |        |      |       |
| Unknown        | -         | MFSD1  | IPI00152959  | 1                                      |          |        |      |       |
| Unknown        | -         | MFSD5  | IPI00301554  |  |          |        |      | 3     |
| Unknown        | -         | MGC2803  | IPI00031526  |  |          | 4      |      | 3     |
| Unknown        | -         | MGC10993   | IPI00012251  | 1                                      |          |        |      |       |
| Unknown        | -         | MGC13096   | IPI00031647  |  |          |        |      | 5     |
| Unknown        | -         | MGC14289   | IPI00062866  |  | 2        | 6      | 1    |       |
| Unknown        | -         | MGC33214   | IPI00181160  |  |          |        | 1    |       |
| Unknown        | -         | MGC52424   | IPI00177509  |  |          |        |      | 2     |
| Unknown        | -         | MGC61571   | IPI00376478  | 1                                      |          | 2      | 2    | 2     |
| Unknown        | -         | MGP  | IPI00028714  |  | 1        |        |      |       |
| Unknown        | -         | Mitsugumin 23  | IPI00031697  |  | 4        |        |      | 6     |
| Unknown        | -         | MLC1SA   | IPI00027255  |  |          |        | 2    |       |
| Unknown        | -         | MLLT3  | IPI00000033  | 4                                      |          |        |      |       |
| Unknown        | -         | MLSTD2   | IPI00478838  | 2                                      |          |        |      |       |
| Unknown        | -         | MORF4L1  | IPI00409675  | 1                                      |          |        |      |       |

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| Protein family | Subfamily | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|----------------|-----------|--|--------------|--|----------|--------|------|-------|
|                |           |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Unknown        | -         | MOSC2  | IPI00329552  | 2                                      |          |        |      |       |
| Unknown        | -         | MPDU1  | IPI00025292  |  | 5        | 1      |      |       |
| Unknown        | -         | MR-1   | IPI00382557  | 2                                      | 1        | 2      | 2    | 2     |
| Unknown        | -         | MRPL46   | IPI00023161  | 4                                      |          |        |      |       |
| Unknown        | -         | MRPL53   | IPI00061531  | 2                                      |          |        |      |       |
| Unknown        | -         | MRPS26   | IPI00006606  |  |          |        | 1    |       |
| Unknown        | -         | MTP18  | IPI00383766  |  |          |        |      | 2     |
| Unknown        | -         | MVP  | IPI00000105  | 3                                      |          |        |      |       |
| Unknown        | -         | NBEAL2   | IPI00297242  | 3                                      |          | 9      | 3    |       |
| Unknown        | -         | NCDN   | IPI00549543  | 2                                      |          |        |      | 1     |
| Unknown        | -         | NDRG1  | IPI00022078  |  | 1        |        |      |       |
| Unknown        | -         | NIFUN  | IPI00022240  |  |          |        | 4    |       |
| Unknown        | -         | NIPSNAP1   | IPI00304435  |  |          |        | 2    |       |
| Unknown        | -         | NOL9   | IPI00002902  |  |          |        |      | 3     |
| Unknown        | -         | NRM  | IPI00217557  |  |          | 1      |      |       |
| Unknown        | -         | NSUN2  | IPI00306369  | 8                                      |          |        |      |       |
| Unknown        | -         | NUDC   | IPI00550746  | 3                                      |          |        | 7    | 7     |
| Unknown        | -         | NUDCD1   | IPI00306398  | 2                                      |          | 3      | 1    | 3     |
| Unknown        | -         | NUDCD2   | IPI00103142  |  |          |        | 3    | 4     |
| Unknown        | -         | NUDT16L1   | IPI00031650  |  | 7        | 9      | 7    | 13    |
| Unknown        | -         | NYREN18  | IPI00377271  | 1                                      |          |        |      | 2     |
| Unknown        | -         | OCIAD2   | IPI00555902  |  |          | 5      |      | 3     |
| Unknown        | -         | ODZ3   | IPI00398020  |  | 4        |        |      |       |
| Unknown        | -         | ORF1-FL49  | IPI00382821  |  |          | 1      |      |       |
| Unknown        | -         | OSBP   | IPI00024971  | 3                                      | 1        |        |      |       |
| Unknown        | -         | PACAP  | IPI00102821  |  |          |        |      | 3     |
| Unknown        | -         | PACSLN2  | IPI00027009  |  | 1        |        |      |       |
| Unknown        | -         | PAGE4  | IPI00299244  |  | 4        |        |      |       |
| Unknown        | -         | PAPD1  | IPI00470416  |  |          |        |      | 4     |
| Unknown        | -         | PDCD10   | IPI00298558  | 1                                      | 4        | 5      | 2    | 5     |
| Unknown        | -         | PDCL2  | IPI00166688  |  | 2        | 1      |      | 1     |
| Unknown        | -         | PHLDA2   | IPI00019551  |  | 2        |        |      |       |
| Unknown        | -         | PHLDB2   | IPI00410259  |  |          |        |      | 1     |
| Unknown        | -         | PNPLA1   | IPI00167613  |  |          |        |      | 4     |
| Unknown        | -         | POPCD2   | IPI00328717  |  |          |        | 1    |       |
| Unknown        | -         | PP3971.  | IPI00170670  |  |          |        |      | 1     |
| Unknown        | -         | PQLC3  | IPI00167098  |  | 2        |        |      |       |
| Unknown        | -         | PREDICTED: SIMILAR TO GOLGI AUTOANTIGEN, GOLGIN S                              | IPI00399155  |  |          | 2      |      |       |
| Unknown        | -         | PROSC  | IPI00016346  | 2                                      | 8        | 15     | 7    | 8     |
| Unknown        | -         | PSG1   | IPI00163720  |  | 1        |        |      |       |
| Unknown        | -         | PSG9   | IPI00293461  |  | 4        |        |      |       |
| Unknown        | -         | PTMA   | IPI00015550  | 16                                     | 7        | 21     | 5    | 19    |
| Unknown        | -         | PTMS   | IPI00719158  | 2                                      | 4        |        |      |       |
| Unknown        | -         | PXMP4  | IPI00218925  |  |          |        |      | 2     |
| Unknown        | -         | RAFTLIN  | IPI00032395  |  |          |        |      | 26    |
| Unknown        | -         | RAG1AP1  | IPI00305185  |  |          |        |      | 2     |
| Unknown        | -         | RHBD1  | IPI00290292  |  | 1        |        |      | 3     |
| Unknown        | -         | RHBDL6   | IPI00433499  |  |          |        |      | 1     |
| Unknown        | -         | RHBDL7   | IPI00010255  |  |          |        |      | 1     |
| Unknown        | -         | RP1-14N1 3   | IPI00397801  | 12                                     | 20       | 9      | 23   | 9     |
| Unknown        | -         | RP5-1104E15 5  | IPI00300223  |  |          |        | 1    |       |
| Unknown        | -         | RP11-98F14 6   | IPI00100313  |  |          |        |      | 5     |
| Unknown        | -         | RP11-217H1 1   | IPI00301202  |  | 5        |        |      |       |
| Unknown        | -         | RQCD1  | IPI00023101  |  |          | 6      |      | 4     |
| Unknown        | -         | RTN2   | IPI00024983  |  |          |        | 1    |       |
| Unknown        | -         | RTN3   | IPI00398795  |  | 6        | 1      |      |       |
| Unknown        | -         | RTN3   | IPI00555783  | 1                                      |          |        | 3    | 3     |
| Unknown        | -         | RTTN   | IPI00645947  | 9                                      |          | 7      |      |       |
| Unknown        | -         | SAA1   | IPI00304935  | 1                                      |          | 1      | 1    | 1     |
| Unknown        | -         | SAMM50   | IPI00412713  |  | 4        |        |      |       |
| Unknown        | -         | SART1  | IPI00021417  |  |          | 3      |      |       |
| Unknown        | -         | SBSN   | IPI00373937  | 1                                      |          |        |      |       |
| Unknown        | -         | SF3B5  | IPI00010404  |  |          |        | 2    | 3     |
| Unknown        | -         | SFRS16   | IPI00013107  |  |          |        |      | 1     |
| Unknown        | -         | SFT2D2   | IPI00029002  |  |          |        |      | 1     |
| Unknown        | -         | SH2BP1   | IPI00005625  |  |          |        | 1    |       |
| Unknown        | -         | SIKE   | IPI00305186  |  |          |        |      | 1     |
| Unknown        | -         | SIMILAR TO BX34-P1.  | IPI00063142  |  |          |        |      | 1     |
| Unknown        | -         | SIMILAR TO CHROMOSOME 21 OPEN READING FRAME 70.                                | IPI00067466  |  |          |        |      | 1     |
| Unknown        | -         | SIMILAR TO COX11 (YEAST) HOMOLOG, CYTOCHROME C OX                              | IPI00142866  |  |          | 1      |      |       |
| Unknown        | -         | SIMILAR TO DJ604K5.1 (15 KDA SELENOPROTEIN).                                   | IPI00104903  |  |          |        | 1    |       |
| Unknown        | -         | SIMILAR TO E2F TRANSCRIPTION FACTOR -LIKE PROTEIN                              | IPI00183869  |  |          |        |      | 2     |
| Unknown        | -         | SIMILAR TO FRG1 PROTEIN (FSHD REGION GENE 1 PROTE                              | IPI00019816  |  |          |        | 3    |       |
| Unknown        | -         | SIMILAR TO HYPOTHETICAL PROTEIN (H. SAPIENS).                                  | IPI00036670  |  |          |        | 1    |       |
| Unknown        | -         | SIMILAR TO HYPOTHETICAL PROTEIN FLJ10292.                                      | IPI00004316  | 1                                      |          |        | 1    | 1     |
| Unknown        | -         | SIMILAR TO HYPOTHETICAL PROTEIN FLJ10902 (H. SAPI                              | IPI00043770  |  |          |        |      | 1     |
| Unknown        | -         | SIMILAR TO HYPOTHETICAL PROTEIN FLJ12457.                                      | IPI00076139  |  | 2        |        |      |       |
| Unknown        | -         | SIMILAR TO HYPOTHETICAL PROTEIN MGC29729.                                      | IPI00047508  |  | 3        | 2      | 3    | 2     |
| Unknown        | -         | SIMILAR TO KARYOPHERIN ALPHA 1 (IMPORTIN ALPHA 5)                              | IPI00097143  | 2                                      |          |        |      |       |
| Unknown        | -         | SIMILAR TO NONSYNDROMIC HEARING IMPAIRMENT PROTEI                              | IPI00106625  |  |          | 1      |      |       |
| Unknown        | -         | SIMILAR TO PEPTIDYLPROLYL ISOMERASE A (CYCLOPHILI                              | IPI00094886  |  |          |        | 1    |       |
| Unknown        | -         | SIMILAR TO PESCADILLO HOMOLOG 1.   | IPI00074223  |  |          |        |      | 1     |
| Unknown        | -         | SIMILAR TO PROLINE-SERINE-THREONINE PHOSPHATASE I                              | IPI00141076  | 1                                      |          |        |      |       |
| Unknown        | -         | SIMILAR TO R27-2 PROTEIN - TRYPAOSOMA CRUZI.                                   | IPI00161341  |  |          |        |      | 5     |
| Unknown        | -         | SIMILAR TO RETICULON PROTEIN 3 (NEUROENDOCRINE-SP                              | IPI00177423  |  |          | 3      |      |       |
| Unknown        | -         | SIMILAR TO SERINE/THREONINE-PROTEIN KINASE PAK 2                               | IPI00158354  |  |          | 1      |      | 1     |
| Unknown        | -         | SIMILAR TO STEROID HORMONE RECEPTOR HOMOLOG - FRU                              | IPI00096097  |  |          |        | 1    |       |
| Unknown        | -         | SIMILAR TO TANDEM PORE DOMAIN POTASSIUM CHANNEL T                              | IPI00041219  |  |          |        |      | 1     |
| Unknown        | -         | SPAG9  | IPI00218097  | 2                                      |          |        |      |       |
| Unknown        | -         | SPBC24   | IPI00168317  |  |          | 2      |      |       |
| Unknown        | -         | SPBC25   | IPI00010219  |  |          | 1      |      |       |
| Unknown        | -         | SSNA1  | IPI00014437  |  |          |        |      | 4     |
| Unknown        | -         | SSU72  | IPI00023556  |  |          | 1      |      |       |
| Unknown        | -         | STARD7   | IPI00024548  |  |          |        |      | 3     |
| Unknown        | -         | STATIP1  | IPI00015560  |  |          |        | 2    | 1     |
| Unknown        | -         | STOM   | IPI00219682  | 6                                      | 8        |        | 2    | 1     |
| Unknown        | -         | STRA6  | IPI00465247  |  | 4        |        |      |       |
| Unknown        | -         | STRAP  | IPI00294536  |  |          |        |      | 2     |
| Unknown        | -         | STXP6  | IPI00178314  |  |          |        |      | 1     |
| Unknown        | -         | SUGT1  | IPI00009149  |  |          |        |      | 3     |
| Unknown        | -         | SURF4  | IPI00005737  | 15                                     | 80       | 37     | 12   | 36    |
| Unknown        | -         | SYNGR2   | IPI00013946  |  | 3        |        |      |       |
| Unknown        | -         | SYNGR2   | IPI00654744  |  |          | 2      |      |       |
| Unknown        | -         | SYNGR3   | IPI00013947  |  |          |        |      | 2     |
| Unknown        | -         | TBL2   | IPI00000948  |  |          |        |      | 4     |
| Unknown        | -         | TCOF1  | IPI00298696  |  |          | 7      | 26   | 30    |
| Unknown        | -         | TEX264   | IPI00006372  | 6                                      | 2        | 9      | 3    | 19    |
| Unknown        | -         | THUMP1   | IPI00465054  |  |          |        | 1    |       |
| Unknown        | -         | TIPRL  | IPI00180637  |  |          | 3      | 3    | 2     |
| Unknown        | -         | TMCO1  | IPI00026111  |  |          | 4      |      | 3     |

| Protein family | Subfamily | Protein name<br>(Sugen nomenclature for kinases when available, rest from IPI) | IPI acc. no. | Number of spectrum-to-sequence matches |          |        |      |       |
|----------------|-----------|--|--------------|--|----------|--------|------|-------|
|                |           |  |              | HeLa                                   | Placenta | Jurkat | K562 | Ramos |
| Unknown        | -         | TMEM2  | IPI00170706  |  | 13       |        |      |       |
| Unknown        | -         | TMEM16F  | IPI00151710  |  | 3        | 5      |      |       |
| Unknown        | -         | TMEM32   | IPI00166785  |  | 2        | 3      |      | 2     |
| Unknown        | -         | TMEM33   | IPI00299084  | 11                                     | 13       | 12     | 4    | 14    |
| Unknown        | -         | TMEM38B  | IPI00018237  |  |          |        | 1    | 1     |
| Unknown        | -         | TMEM41A  | IPI00063334  |  |          |        |      | 2     |
| Unknown        | -         | TMEM41B  | IPI00555703  | 3                                      |          |        | 1    |       |
| Unknown        | -         | TMEM43   | IPI00301280  |  | 14       |        |      |       |
| Unknown        | -         | TMEM49   | IPI00062469  |  |          |        |      | 1     |
| Unknown        | -         | TMEM50A  | IPI00385141  |  |          |        |      | 5     |
| Unknown        | -         | TMEM50B  | IPI00010146  |  |          |        |      | 5     |
| Unknown        | -         | TMEM66   | IPI00604763  | 13                                     | 3        | 5      | 2    | 6     |
| Unknown        | -         | TMEM103  | IPI00107155  |  |          |        | 1    |       |
| Unknown        | -         | TMEM111  | IPI00020472  |  |          | 1      |      |       |
| Unknown        | -         | TMEM113  | IPI00152695  | 2                                      |          |        |      | 4     |
| Unknown        | -         | TMPT   | IPI00470533  | 2                                      | 3        | 2      |      |       |
| Unknown        | -         | TNFAIP8  | IPI00027627  |  |          | 3      |      | 2     |
| Unknown        | -         | TPARL  | IPI00307572  | 2                                      | 2        | 1      |      | 2     |
| Unknown        | -         | TRAM2  | IPI00014218  |  | 1        |        |      |       |
| Unknown        | -         | TRAPPC1  | IPI00009654  |  |          |        |      | 2     |
| Unknown        | -         | TSC1   | IPI00022043  |  |          |        |      | 5     |
| Unknown        | -         | TSPAN14  | IPI00303059  |  | 2        | 1      |      |       |
| Unknown        | -         | TTC7B  | IPI00456534  |  | 4        |        |      |       |
| Unknown        | -         | UBL5   | IPI00013241  |  |          |        |      | 1     |
| Unknown        | -         | UBXD2  | IPI00293946  |  |          |        |      | 2     |
| Unknown        | -         | UFC1   | IPI00294495  |  |          |        |      | 3     |
| Unknown        | -         | UNC45A   | IPI00072534  | 8                                      |          | 2      | 3    | 1     |
| Unknown        | -         | UNC93B1  | IPI00008490  |  |          |        |      | 4     |
| Unknown        | -         | UNG2   | IPI00186099  | 1                                      |          |        |      |       |
| Unknown        | -         | UNQ501   | IPI00063130  |  |          |        |      | 1     |
| Unknown        | -         | UNQ5783  | IPI00478640  |  |          |        |      | 1     |
| Unknown        | -         | USMG5  | IPI00640630  |  |          |        |      | 3     |
| Unknown        | -         | VAC14  | IPI00025160  |  |          |        | 6    | 1     |
| Unknown        | -         | VCY  | IPI00297427  |  | 1        |        |      |       |
| Unknown        | -         | WBSCR19  | IPI00477590  |  | 2        |        |      |       |
| Unknown        | -         | WDR18  | IPI00032533  |  |          |        |      | 2     |
| Unknown        | -         | WDR42A   | IPI00290071  | 1                                      |          | 2      |      |       |
| Unknown        | -         | WDR58  | IPI00328985  |  |          |        |      | 1     |
| Unknown        | -         | WDR61  | IPI00019269  |  |          |        | 1    | 4     |
| Unknown        | -         | WDR62  | IPI00470483  |  |          |        |      | 1     |
| Unknown        | -         | WIBG   | IPI00305092  |  |          |        | 1    |       |
| Unknown        | -         | WRB  | IPI00010873  |  |          |        |      | 3     |
| Unknown        | -         | XX-FW81657B9 4   | IPI00032314  |  |          |        | 2    |       |
| Unknown        | -         | YIF1A  | IPI00658171  | 3                                      | 2        |        |      | 2     |
| Unknown        | -         | YIF1B  | IPI00063544  | 1                                      | 2        |        | 1    |       |
| Unknown        | -         | YIPF4  | IPI00031127  |  |          |        | 1    |       |
| Unknown        | -         | YIPF5  | IPI00607768  |  | 2        | 2      |      | 3     |
| Unknown        | -         | YPFL5  | IPI00429538  |  |          |        | 2    |       |
| Unknown        | -         | YRDC   | IPI00384180  |  |          |        |      | 2     |
| Unknown        | -         | YTHDF2   | IPI00306043  | 2                                      |          |        |      | 9     |

Kinobeads competition data calculated from iTRAQ reporter signals for bosutinib, dasatinib, and imatinib in K562 cell lysate (data for **Fig. 3b** and **3c**)

| bosutinib    |         |        |                      |             |                                     |           |          |         |          | dasatinib |         |        |       |                                     |   |                                     |           |          |         | imatinib |        |         |        |       |                                     |   |                                     |         |          |        |         |        |       |                                     |   |
|--------------|---------|--------|----------------------|-------------|-------------------------------------|-----------|----------|---------|----------|-----------|---------|--------|-------|-------------------------------------|---|-------------------------------------|-----------|----------|---------|----------|--------|---------|--------|-------|-------------------------------------|---|-------------------------------------|---------|----------|--------|---------|--------|-------|-------------------------------------|---|
| IPI acc. no. | Protein | Kinase | highest Mascot score | highest SSM | highest SSM used for quantification | 0.0001 μM | 0.001 μM | 0.01 μM | 0.033 μM | 0.1 μM    | 0.33 μM | 1.0 μM | 10 μM | [cpd] causing 50% reduction binding | [cpd] at inflection point of curve (μM) | highest SSM used for quantification | 0.0001 μM | 0.001 μM | 0.01 μM | 0.033 μM | 0.1 μM | 0.33 μM | 1.0 μM | 10 μM | [cpd] causing 50% reduction binding | [cpd] at inflection point of curve (μM) | highest SSM used for quantification | 0.01 μM | 0.033 μM | 0.1 μM | 0.33 μM | 1.0 μM | 10 μM | [cpd] causing 50% reduction binding | [cpd] at inflection point of curve (μM) |
| IP00012197   | XTP3PFA |        | 236                  | 7           | 4                                   | 0.92      | 0.3      | 0.86    | 0.87     | 0.86      | 0.69    | 0.51   | >10   | >10                                 | 0.933                                   | 6                                   | 0.98      | 1.02     | 0.81    | 0.52     | 0.89   | 1.0     | 0.55   | 0.67  | >10                                 | 0.202                                   | 2                                   | 0.97    | 1.58     | 0.96   | 0.91    | 0.82   | 0.80  | >10                                 | NA                                      |
| IP00029897   | AABK1   | AAK1   | 1181                 | 87          | 36                                  | 0.90      | 0.97     | 1.07    | 1.00     | 1.07      | 0.92    | 0.91   | 0.55  | >10                                 | 0.3411                                  | 34                                  | 0.95      | 0.91     | 1.02    | 0.90     | 1.02   | 0.96    | 0.87   | 0.75  | >10                                 | NA                                      | 21                                  | 1.06    | 1.07     | 0.96   | 0.91    | 0.94   | 0.83  | >10                                 | NA                                      |
| IP00063828   | ABHD14B |        | 57                   | 2           | 1                                   | 1.10      | 1.30     | 0.64    | NA       | NA        | NA      | NA     | NA    | >10                                 | NA                                      | 1                                   | 1.44      | 1.63     | 0.69    | NA       | NA     | NA      | NA     | NA    | >10                                 | NA                                      | 1                                   | 1.10    | NA       | 1.15   | NA      | 0.65   | NA    | >10                                 | NA                                      |
| IP00023488   | ABL2    | ARG    | 2998                 | 529         | 117                                 | 0.93      | 0.94     | 0.80    | 0.88     | 0.51      | 0.32    | 0.25   | 0.19  | 0.102                               | 0.071                                   | 121                                 | 0.99      | 0.95     | 0.77    | 0.42     | 0.37   | 0.25    | 0.22   | 0.17  | 0.031                               | 0.019                                   | 53                                  | 1.05    | 1.17     | 0.81   | 0.86    | 0.47   | 0.30  | 0.71                                | 0.272                                   |
| IP00030319   | ACF1    |        | 1344                 | 62          | 1                                   | 1.01      | 1.01     | 1.01    | 1.04     | 1.01      | 1.04    | 1.02   | >10   | >10                                 | NA                                      | 4                                   | 1.04      | 1.06     | 1.04    | 0.98     | 1.04   | 1.04    | 0.98   | 0.93  | >10                                 | NA                                      | 10                                  | 1.07    | 1.01     | 1.01   | 0.95    | 0.87   | 0.80  | >10                                 | NA                                      |
| IP00040698   | ACTA2   |        | 364                  | 17          | 4                                   | 1.02      | 1.13     | 0.99    | 1.08     | 1.19      | 0.45    | 0.44   | 0.46  | 0.257                               | 0.205                                   | 8                                   | 0.82      | 0.64     | 0.72    | NA       | NA     | NA      | NA     | NA    | >10                                 | NA                                      | 0                                   | NA      | NA       | NA     | NA      | NA     | NA    | >10                                 | NA                                      |
| IP00021438   | ACTG1   |        | 1221                 | 104         | 39                                  | 1.37      | 1.16     | 1.04    | 1.03     | 1.01      | 0.69    | 0.63   | 0.48  | >10                                 | 0.267                                   | 40                                  | 1.10      | 0.96     | 0.96    | 0.92     | 0.90   | 0.85    | 0.59   | 0.53  | >10                                 | 0.436                                   | 28                                  | 1.02    | 1.23     | 1.10   | 0.95    | 0.88   | 0.75  | >10                                 | NA                                      |
| IP00013808   | ACTN4   |        | 66                   | 9           | 0                                   | NA        | NA       | NA      | NA       | NA        | NA      | NA     | NA    | >10                                 | NA                                      | 1                                   | NA        | NA       | 0.75    | 0.99     | 1.37   | 1.63    | 0.62   | 1.01  | >10                                 | NA                                      | 0                                   | NA      | NA       | NA     | NA      | NA     | >10   | NA                                  |   |
| IP00023210   | ADCK1   | ADCK1  | 154                  | 38          | 1                                   | 1.01      | 1.01     | 1.01    | 1.01     | 0.96      | 0.72    | >10    | >10   | >10                                 | NA                                      | 10                                  | 1.04      | 1.06     | 1.06    | 1.06     | 1.06   | 1.06    | 1.06   | 1.06  | >10                                 | NA                                      | 10                                  | 1.04    | 1.04     | 1.04   | 1.04    | 1.04   | 1.04  | >10                                 | NA                                      |
| IP00005972   | ACVR1B  |        | 238                  | 14          | 2                                   | 0.94      | 0.99     | 1.14    | NA       | 0.73      | NA      | 0.49   | NA    | 0.273                               | 0.091                                   | 1                                   | NA        | NA       | 0.97    | NA       | 0.85   | NA      | 0.54   | NA    | >10                                 | NA                                      | 0                                   | 0.88    | NA       | 0.94   | NA      | 0.85   | NA    | >10                                 | NA                                      |
| IP00043565   | ACVR2B  | ACTR2B | 282                  | 14          | 0                                   | 0.98      | 1.22     | 0.99    | 1.18     | 1.08      | 0.91    | 0.92   | 0.76  | >10                                 | NA                                      | 8                                   | 1.13      | 1.10     | 0.92    | 1.20     | 0.82   | 0.92    | 0.64   | 0.57  | >10                                 | 0.356                                   | 4                                   | 0.94    | 1.52     | 1.01   | 1.06    | 0.65   | 0.94  | >10                                 | NA                                      |
| IP00007709   | ADAM28  |        | 57                   | 2           | 0                                   | NA        | NA       | NA      | NA       | NA        | NA      | NA     | NA    | >10                                 | NA                                      | 2                                   | NA        | NA       | 0.99    | NA       | 0.80   | NA      | 0.71   | NA    | >10                                 | NA                                      | 1                                   | 0.92    | NA       | 0.68   | NA      | 0.68   | NA    | >10                                 | NA                                      |
| IP00045096   | ADCK1   | ADCK1  | 119                  | 8           | 1                                   | 1.05      | 0.91     | 1.01    | 1.01     | 0.9       |         |        |       |                                     |   |                                     |           |          |         |          |        |         |        |       |                                     |   |                                     |         |          |        |         |        |       |                                     |   |

| bosutinib    |               |        |                            |                |   |  |             |            |             |           |            |           |          |           | dasatinib    |  |  |   |  |            |             |           |            |           |          |           |            |             |  | imatinib   |   |  |            |           |          |           |      |      |      |      |      |  |  |       |       |      |      |      |      |      |      |      |       |       |
|--------------|---------------|--------|----------------------------|----------------|---|--|-------------|------------|-------------|-----------|------------|-----------|----------|-----------|--------------|--|--|---|--|------------|-------------|-----------|------------|-----------|----------|-----------|------------|-------------|--|--|---|--|------------|-----------|----------|-----------|------|------|------|------|------|--|--|-------|-------|------|------|------|------|------|------|------|-------|-------|
| IPI acc. no. | Protein       | Kinase | highest<br>Mascot<br>score | highest<br>SSM | highest SSM<br>used for<br>quantification | kinobeads binding relative to vehicle at |             |            |             |           |            |           |          |           |              | [cpd] causing<br>50% binding<br>reduction (μM) | [cpd] at<br>inflection<br>point of<br>curve (μM) | highest SSM<br>used for<br>quantification | kinobeads binding relative to vehicle at |            |             |           |            |           |          |           |            |             | [cpd] causing<br>50% binding<br>reduction (μM) | [cpd] at<br>inflection<br>point of<br>curve (μM) | highest SSM<br>used for<br>quantification | kinobeads binding relative to vehicle at |            |           |          |           |      |      |      |      |      | [cpd] causing<br>50% binding<br>reduction (μM) | [cpd] at<br>inflection<br>point of<br>curve (μM) |       |       |      |      |      |      |      |      |      |       |       |
|              |               |        |                            |                |   | 0.0001<br>μM                             | 0.001<br>μM | 0.01<br>μM | 0.033<br>μM | 0.1<br>μM | 0.33<br>μM | 1.0<br>μM | 10<br>μM | 100<br>μM | 0.0001<br>μM |  |  |   | 0.001<br>μM                              | 0.01<br>μM | 0.033<br>μM | 0.1<br>μM | 0.33<br>μM | 1.0<br>μM | 10<br>μM | 100<br>μM | 0.01<br>μM | 0.033<br>μM |  |  |   | 0.1<br>μM                                | 0.33<br>μM | 1.0<br>μM | 10<br>μM | 100<br>μM |      |      |      |      |      |  |  |       |       |      |      |      |      |      |      |      |       |       |
| IP00465058   | CSNK1G1       | CK1γ1  | 457                        | 15             |   | 2  | 1.05        | 0.82       | 0.90        | 1.01      | NA         | 0.90      | NA       | 0.67      | >10          | NA   | 0  | NA  | NA                                       | NA         | NA          | NA        | NA         | NA        | NA       | >10       | NA         | 0           | NA   | NA   | NA  | NA                                       | NA         | NA        | NA       | >10       | NA   | NA   | NA   | NA   | >10  | NA   | NA   | NA    | >10   | NA   |      |      |      |      |      |      |       |       |
| IP00218437   | CSNK1G3       | CK1γ3  | 932                        | 76             |   | 31                                       | 0.83        | 0.94       | 1.00        | 0.97      | 1.08       | 0.91      | 0.92     | 0.83      | >10          | NA   | 35   | 0.94                                      | 0.95                                     | 0.97       | 0.97        | 0.93      | 1.07       | 0.71      | 0.88     | >10       | NA         | 13          | 1.05   | 1.15   | 1.04                                      | 0.96                                     | 0.93       | 0.81      | >10      | NA        | 1.05 | 1.15 | 1.04 | 0.96 | 0.93 | 0.81   | >10  | NA    | 1.05  | 1.15 | 1.04 | 0.96 | 0.93 | 0.81 | >10  | NA   |       |       |
| IP00016613   | CSNK2A1       | CK2α1  | 572                        | 41             |   | 24                                       | 1.00        | 1.08       | 1.02        | 0.90      | 0.88       | 0.86      | 0.75     | 0.69      | >10          | NA   | 22   | 1.01                                      | 0.96                                     | 0.86       | 1.05        | 0.79      | 0.96       | 0.58      | 0.86     | >10       | 0.518      | 20          | 1.01   | 1.20   | 0.91                                      | 0.85                                     | 0.71       | 0.56      | >10      | 0.373     | 20   | 1.01 | 1.20 | 0.91 | 0.85 | 0.71   | 0.56   | >10   | 0.373 | 20   | 1.01 | 1.20 | 0.91 | 0.85 | 0.71 | 0.56 | >10   | 0.373 |
| IP00202602   | CSNK2A2       | CK2α2  | 1101                       | 82             |   | 57                                       | 0.95        | 0.95       | 1.02        | 0.96      | 1.03       | 0.89      | 0.80     | 0.83      | >10          | NA   | 56   | 1.05                                      | 1.00                                     | 0.99       | 0.95        | 0.95      | 0.97       | 0.69      | 0.78     | >10       | NA         | 20          | 1.11   | 1.30   | 0.96                                      | 0.90                                     | 0.94       | 0.67      | >10      | NA        | 20   | 1.11 | 1.30 | 0.96 | 0.90 | 0.94   | 0.67   | >10   | NA    | 20   | 1.11 | 1.30 | 0.96 | 0.90 | 0.94 | 0.67 | >10   | NA    |
| IP00010865   | CSNK2B        |        | 457                        | 38             |   | 13                                       | 1.06        | 1.17       | 1.16        | 0.97      | 1.11       | 0.92      | 0.91     | 0.77      | >10          | NA   | 14   | 1.11                                      | 1.25                                     | 1.01       | 1.11        | 0.87      | 1.04       | 0.76      | 0.91     | >10       | NA         | 12          | 1.04   | 1.02   | 1.00                                      | 0.90                                     | 0.85       | 0.56      | >10      | 3.551     | 12   | 1.04 | 1.02 | 1.00 | 0.90 | 0.85   | 0.56   | >10   | 3.551 | 12   | 1.04 | 1.02 | 1.00 | 0.90 | 0.85 | 0.56 | >10   | 3.551 |
| IP00290142   | CTPS          |        | 51                         | 6              |   | 1  | NA          | NA         | 1.07        | NA        | 1.15       | NA        | 0.82     | NA        | >10          | NA   | 2  | NA  | NA                                       | 0.98       | 0.84        | 1.04      | 0.92       | 0.70      | 0.66     | >10       | NA         | 1           | NA   | 1.97   | NA  | 0.63                                     | NA         | 1.17      | >10      | NA        | 1    | NA   | 1.97 | NA   | 0.63 | NA   | 1.17   | >10   | NA    | 1    | NA   | 1.97 | NA   | 0.63 | NA   | 1.17 | >10   | NA    |
| IP00644231   | CYFIP1        |        | 107                        | 5              |   | 2  | 0.95        | 0.85       | 0.75        | NA        | NA         | NA        | NA       | NA        | >10          | NA   | 2  | 1.20                                      | 1.15                                     | 0.58       | NA          | NA        | NA         | NA        | NA       | >10       | NA         | 1           | 0.98   | NA   | 1.68                                      | NA                                       | 0.76       | NA        | >10      | NA        | 1    | 0.98 | NA   | 1.68 | NA   | 0.76   | NA   | >10   | NA    | 1    | 0.98 | NA   | 1.68 | NA   | 0.76 | NA   | >10   | NA    |
| IP00202454   | DCK           |        | 416                        | 21             |   | 14                                       | 0.92        | 0.93       | 1.00        | 1.12      | 1.17       | 0.91      | 0.92     | 0.92      | >10          | NA   | 13   | 1.06                                      | 1.04                                     | 1.00       | 1.14        | 1.01      | 1.12       | 0.77      | 0.97     | >10       | NA         | 5           | 1.01   | 1.03   | 1.01                                      | 0.88                                     | 0.85       | 0.86      | >10      | NA        | 5    | 1.01 | 1.03 | 1.01 | 0.88 | 0.85   | 0.86   | >10   | NA    | 5    | 1.01 | 1.03 | 1.01 | 0.88 | 0.85 | 0.86 | >10   | NA    |
| IP0001477    | DDR1          | DDR1   | 473                        | 25             |   | 11                                       | 0.90        | 0.87       | 0.91        | 1.01      | 1.01       | 0.86      | 0.62     | 0.44      | 1.885        | 0.767  | 8  | 1.04                                      | 0.96                                     | 0.94       | 1.00        | 0.72      | 0.51       | 0.39      | 0.44     | 0.275     | 0.113      | 6           | 0.95   | 0.92   | 0.65                                      | 0.42                                     | 0.53       | 0.28      | 0.179    | 0.090     | 6    | 0.95 | 0.92 | 0.65 | 0.42 | 0.53   | 0.28   | 0.179 | 0.090 | 6    | 0.95 | 0.92 | 0.65 | 0.42 | 0.53 | 0.28 | 0.179 | 0.090 |
| IP002026829  | DHPS          |        | 377                        | 9              |   | 8  | 0.94        | 1.05       | 0.92        | 1.36      | 1.20       | 1.03      | 0.86     | 0.84      | >10          | NA   | 8  | 1.11                                      | 1.04                                     | 1.19       | 0.81        | 1.12      | 0.96       | 0.97      | 0.58     | >10       | 2.725      | 3           | 1.88   | 2.23   | 1.26                                      | 1.01                                     | 1.22       | 1.10      | >10      | NA        | 3    | 1.88 | 2.23 | 1.26 | 1.01 | 1.22   | 1.10   | >10   | NA    | 3    | 1.88 | 2.23 | 1.26 | 1.01 | 1.22 | 1.10 | >10   | NA    |
| IP00298547   | DJ-1          |        | 105                        | 4              |   | 2  | 1.57        | 1.22       | 0.94        | NA        | NA         | NA        | NA       | NA        | >10          | NA   | 3  | 1.13                                      | 1.11                                     | 1.00       | 0.84        | NA        | 0.86       | NA        | 0.53     | >10       | 0.504      | 0           | NA   | NA   | NA  | NA                                       | NA         | NA        | >10      | NA        | 0    | NA   | NA   | NA   | NA   | NA   | >10  | NA    | 0     | NA   | NA   | NA   | NA   | NA   | >10  | NA   |       |       |
| IP00397883   | DNFZ688K16132 |        | 129                        | 10             |   | 1  | NA          | NA         | 0.93        | NA        | 0.83       | NA        | 0.61     | NA        | >10          | NA   | 2  | NA  | NA                                       | 0.89       | NA          | 1.07      | NA         | 0.55      | NA       | >10       | NA         | 3           | 1.04   | 1.12   | 0.83                                      | 0.84                                     | 0.70       | 0.71      | >10      | NA        | 3    | 1.04 | 1.12 | 0.83 | 0.84 | 0.70   | 0.71   | >10   | NA    | 3    | 1.04 | 1.12 | 0.83 | 0.84 | 0.70 | 0.71 | >10   | NA    |
| IP0064707    | DLAT          |        | 1034                       | 77             |   | 31                                       | 0.93        | 1.02       | 1.01        | 0.93      | 0.97       | 0.88      | 0.89     | 0.75      | >10          | NA   | 38   | 0.99                                      | 0.95                                     | 0.96       | 1.00        | 0.95      | 0.97       | 0.73      | 0.79     | >10       | NA         | 31          | 1.03   | 1.00   | 0.96                                      | 0.87                                     | 0.80       | 0.78      | >10      | NA        | 31   | 1.03 | 1.00 | 0.96 | 0.87 | 0.80   | 0.78   | >10   | NA    | 31   | 1.03 | 1.00 | 0.96 | 0.87 | 0.80 | 0.78 | >10   | NA    |
| IP00293260   | DNAJC10       |        | 221                        | 10             |   | 5  | 1.10        | 1.15       | 1.08        | 1.07      | 1.04       | 0.96      | 0.84     | 0.85      | >10          | NA   | 4  | 1.11                                      | 0.98                                     | 0.88       | 1.18        | 0.89      | 1.20       | 0.77      | 0.86     | >10       | NA         | 4           | 0.99   | 1.01   | 0.95                                      | 1.00                                     | 0.81       | 0.77      | >10      | NA        | 4    | 0.99 | 1.01 | 0.95 | 1.00 | 0.81   | 0.77   | >10   | NA    | 4    | 0.99 | 1.01 | 0.95 | 1.00 | 0.81 | 0.77 | >10   | NA    |
| IP00222602   | DOK2          |        | 577                        | 34             |   | 9  | 0.93        | 0.95       | 1.02        | 0.86      | 0.97       | 0.63      | 0.46     | 0.25      | 0.716        | 0.461  | 8  | 0.96                                      | 0.95                                     | 0.86       | 0.64        | 0.41      | 0.34       | 0.14      | 0.25     | 0.067     | 0.045      | 10          | 0.90   | 1.42   | 0.95                                      | 1.06                                     | 0.71       | 0.75      | >10      | NA        | 10   | 0.90 | 1.42 | 0.95 | 1.06 | 0.71   | 0.75   | >10   | NA    | 10   | 0.90 | 1.42 | 0.95 | 1.06 | 0.71 | 0.75 | >10   | NA    |
| IP00205753   | DSG1          |        | 68                         | 4              |   | 0  | NA          | NA         | NA          | NA        | NA         | NA        | NA       | NA        | >10          | NA   | 2  | 1.19                                      | 1.16                                     | 1.27       | NA          | NA        | NA         | NA        | NA       | >10       | NA         | 0           | NA   | NA   | NA  | NA                                       | NA         | NA        | >10      | NA        | 0    | NA   | NA   | NA   | NA   | NA   | >10  | NA    | 0     | NA   | NA   | NA   | NA   | NA   | >10  | NA   |       |       |
| IP0019329    | DYLL2         |        | 244                        | 39             |   | 12                                       | 1.13        | 1.07       | 1.06        | 0.98      | 1.07       | 1.04      | 0.89     | 0.77      | >10          | NA   | 10   | 1.00                                      | 0.96                                     | 0.95       | 1.13        | 1.01      | 1.33       | 0.79      | 1.14     | >10       | NA         | 8           | 1.10   | 1.24   | 1.01                                      | 0.99                                     | 0.87       | 0.78      | >10      | NA        | 8    | 1.10 | 1.24 | 1.01 | 0.99 | 0.87   | 0.78   | >10   | NA    | 8    | 1.10 | 1.24 | 1.01 | 0.99 | 0.87 | 0.78 | >10   | NA    |
| IP00014344   | DYRK1A        | DYRK1A | 147                        | 19             |   | 4  | 1.14        | 1.12       | 0.99        | 1.04      | 0.97       | 0.90      | 0.84     | 0.74      | >10          | NA   | 4  | 1.10                                      | 1.00                                     | 0.92       | 1.11        | 0.96      | 1.16       | 0.71      | 0.96     | >10       | NA         | 2           | 1.09   | NA   | 0.75                                      | NA                                       | 0.90       | NA        | >10      | NA        | 2    | 1.09 | NA   | 0.75 | NA   | 0.90   | NA   | >10   | NA    | 2    | 1.09 | NA   | 0.75 | NA   | 0.90 | NA   | >10   | NA    |
| IP00472724   | EEF1A1        |        | 759                        | 34             |   | 24                                       | 1.37        | 1.23       | 1.12        | 0.93      | 1.07       | 0.72      | 0.86     | 0.65      | >10          | NA   | 26   | 1.12                                      | 0.93                                     | 1.00       | 1.13        | 0.99      | 1.27       | 0.89      | 1.06     | >10       | NA         | 11          | 0.94   | 1.16   | 1.01                                      | 0.83                                     | 0.84       | 0.79      | >10      | NA        | 11   | 0.94 | 1.16 | 1.01 | 0.83 | 0.84   | 0.79   | >10   | NA    | 11   | 0.94 | 1.16 | 1.01 | 0.83 | 0.84 | 0.79 | >10   | NA    |
| IP00014424   | EEF1A2        |        | 759                        | 34             |   | 2  | 1.62        | 1.17       | 0.99        | NA        | NA         | NA        | NA       | NA        | >10          | NA   | 0  | NA  | NA                                       | NA         | NA          | NA        | NA         | NA        | NA       | >10       | NA         | 0           | NA   | NA   | NA  | NA                                       | NA         | NA        | >10      | NA        | 0    | NA   | NA   | NA   | NA   | NA   | >10  | NA    | 0     | NA   | NA   | NA   | NA   | NA   | >10  | NA   |       |       |
| IP00200875   | EEF1G         |        | 132                        | 3              |   | 2  | 1.48        | 1.15       | 1.18        | NA        | NA         | NA        | NA       | NA        | >10          | NA   | 3  | 1.55                                      | 1.32                                     | 1.04       | NA          | NA        | NA         | NA        | NA       | >10       | NA         | 0           | NA   | NA   | NA  | NA                                       | NA         | NA        | >10      | NA        | 0    | NA   | NA   | NA   | NA   | NA   | >10  | NA    | 0     | NA   | NA   | NA   | NA   | NA   | >10  | NA   |       |       |
| IP00186290   | EEF2          |        | 196                        | 15             |   | 3  | 1.13        | 1.18       | 1.05        | 1.26      | 1.01       | 0.85      | 0.91     | 0.78      | >10          | NA   | 7  | 1.06                                      | 0.89                                     | 0.91       | 0.93        | 0.91      | 1.09       | 0.63      | 0.78     | >10       | NA         | 4           | 0.82   | 1.81   | 0.91                                      | 0.88                                     | 0.92       | 0.63      | >10      | NA        | 4    | 0.82 | 1.81 | 0.91 | 0.88 | 0.92   | 0.63   | >10   | NA    | 4    | 0.82 | 1.81 | 0.91 | 0.88 | 0.92 | 0.63 | >10   | NA    |
| IP00238149   | EIF2AK1       | HRI    | 370                        | 17             |   | 7  | 0.81        | 0.88       | 1.03        | 1.03      | 1.11       | 0.82      | 0.74     | 0.41      | 3.072        | 1.220  | 8  | 1.16                                      | 1.06                                     | 0.91       | 0.89        | 0.85      | 1.04       | 0.57      | 0.54     | >10       | 0.719      | 4           | 1.08   | 1.22   | 1.10                                      | 0.94                                     | 0.96       | 0.61      | >10      | NA        | 4    | 1.08 | 1.22 | 1.10 | 0.94 | 0.96   | 0.61   | >10   | NA    | 4    | 1.08 | 1.22 | 1.10 | 0.94 | 0.96 | 0.61 | >10   | NA    |
| IP00163851   | EIF2AK4       | GCR2   | 399                        | 15             |   | 10                                       | 1.02        | 1.06       | 1.03        | 0.84      |            |           |          |           |              |  |  |   |  |            |             |           |            |           |          |           |            |             |  |  |   |  |            |           |          |           |      |      |      |      |      |  |  |       |       |      |      |      |      |      |      |      |       |       |

[illegible]

| IPI acc. no. |         | Protein | Kinase | highest Mascot score | highest SSM | bosutinib                                |          |         |          |        |         |        |       |           |          | dasatinib                                |   |                                     |  |          |        |         |        |       |           | imatinib |         |          |  |   |        |         |        |       |       |
|--------------|---------|---------|--------|----------------------|-------------|--|----------|---------|----------|--------|---------|--------|-------|-----------|----------|--|---|-------------------------------------|--|----------|--------|---------|--------|-------|-----------|----------|---------|----------|--|---|--------|---------|--------|-------|-------|
|              |         |         |        |                      |             | kinobeads binding relative to vehicle at |          |         |          |        |         |        |       |           |          | [cpd] causing 50% binding reduction (uM) | [cpd] at inflection point of curve (uM) | highest SSM used for quantification | kinobeads binding relative to vehicle at |          |        |         |        |       |           |          |         |          | [cpd] causing 50% binding reduction (uM) | [cpd] at inflection point of curve (uM) |        |         |        |       |       |
|              |         |         |        |                      |             | 0.0001 uM                                | 0.001 uM | 0.01 uM | 0.033 uM | 0.1 uM | 0.33 uM | 1.0 uM | 10 uM | 0.0001 uM | 0.001 uM |  |   |                                     | 0.01 uM                                  | 0.033 uM | 0.1 uM | 0.33 uM | 1.0 uM | 10 uM | 0.0001 uM | 0.001 uM | 0.01 uM | 0.033 uM |  |   | 0.1 uM | 0.33 uM | 1.0 uM | 10 uM |       |
| IP00011200   | PHGDH   |         | 312    | 7                    | 6           | 1.26                                     | 1.03     | 0.98    | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 5  | 1.15                                    | 1.00                                | 0.82                                     | 1.23     | NA     | 1.24    | NA     | 0.80  | >10       | NA       | 0       | NA       | NA                                       | NA                                      | NA     | NA      | >10    | NA    |       |
| IP00005014   | PI3K1   | PI3K1   | 56     | 2                    | 1           | NA                                       | NA       | 1.46    | NA       | 1.41   | NA      | 1.04   | NA    | >10       | NA       | 1  | NA                                      | NA                                  | NA                                       | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 0       | NA       | NA                                       | NA                                      | NA     | NA      | >10    | NA    |       |
| IP00009688   | PIPSK2A | PIPSK2A | 46     | 7                    | 1           | 1.11                                     | 1.08     | 1.03    | 0.95     | 1.06   | 0.83    | 0.78   | 0.56  | >10       | 0.919    | 0  | NA                                      | NA                                  | NA                                       | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 1       | NA       | 2.30                                     | NA                                      | 0.70   | NA      | 0.38   | 0.518 | NA    |
| IP00216470   | PIPSK2B | PIPSK2B | 57     | 6                    | 1           | NA                                       | NA       | 0.99    | NA       | 1.53   | NA      | 0.73   | NA    | >10       | NA       | 0  | NA                                      | NA                                  | 0.84                                     | NA       | 1.09   | NA      | 0.68   | NA    | >10       | NA       | 0       | NA       | NA                                       | NA                                      | NA     | NA      | >10    | NA    |       |
| IP00152303   | PIPSK2C | PIPSK2C | 67     | 7                    | 1           | 0.76                                     | 1.34     | 0.36    | 0.85     | 0.90   | 0.96    | 0.97   | 0.69  | >10       | NA       | 2  | 0.60                                    | 0.82                                | 1.04                                     | 0.96     | 1.20   | 1.12    | 0.96   | 0.74  | >10       | NA       | 0       | NA       | NA                                       | NA                                      | NA     | NA      | >10    | NA    |       |
| IP00220644   | PKM2    |         | 179    | 6                    | 4           | 1.51                                     | 1.18     | 1.17    | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 5  | 1.00                                    | 0.98                                | 0.85                                     | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 0       | NA       | NA                                       | NA                                      | NA     | NA      | >10    | NA    |       |
| IP00384766   | PKMYT1  | MYT1    | 1054   | 68                   | 40          | 1.02                                     | 0.95     | 1.10    | 1.10     | 1.08   | 0.79    | 0.58   | 0.36  | 1.289     | 0.536    | 34                                       | 1.08                                    | 1.03                                | 0.98                                     | 1.03     | 0.93   | 0.95    | 0.58   | 0.42  | 1.384     | 0.703    | 22      | 1.00     | 1.20                                     | 0.94                                    | 0.90   | 0.91    | 0.74   | >10   | NA    |
| IP00412672   | PKN1    | PKN1    | 139    | 12                   | 5           | 1.00                                     | 0.91     | 1.17    | 1.09     | 1.11   | 1.0     | 0.99   | 0.69  | >10       | NA       | 4  | 0.98                                    | 1.04                                | 1.09                                     | NA       | 1.05   | NA      | 0.74   | NA    | >10       | NA       | 3       | 1.08     | 0.89                                     | 1.07                                    | 0.99   | 0.96    | 0.72   | >10   | NA    |
| IP00413780   | PKN3    | PKN3    | 150    | 16                   | 4           | 1.03                                     | 1.05     | 1.12    | 0.87     | NA     | 0.86    | NA     | 0.63  | >10       | NA       | 5  | 1.09                                    | 1.02                                | 0.92                                     | 0.95     | NA     | 1.13    | NA     | 0.96  | >10       | NA       | 3       | 0.91     | 1.19                                     | 0.92                                    | 0.88   | 0.89    | 0.63   | >10   | 1.298 |
| IP00410344   | PLK4    | PLK4    | 181    | 10                   | 4           | 1.01                                     | 1.01     | 1.15    | 1.08     | 1.21   | 1.11    | 0.97   | 0.77  | >10       | NA       | 4  | 1.03                                    | 1.17                                | 0.98                                     | NA       | 1.06   | NA      | 0.77   | NA    | >10       | NA       | 3       | 0.93     | 1.28                                     | 1.04                                    | 1.16   | 0.92    | 0.63   | >10   | NA    |
| IP00216694   | PLS3    |         | 48     | 5                    | 1           | NA                                       | NA       | 1.13    | NA       | 0.88   | NA      | 0.80   | NA    | >10       | NA       | 1  | 1.61                                    | 1.31                                | 1.05                                     | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 1       | 1.03     | 0.78                                     | 1.05                                    | 0.73   | 0.89    | 0.61   | >10   | NA    |
| IP00455547   | POT1E2  |         | 143    | 10                   | 1           | 0.78                                     | 1.05     | 0.68    | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 0  | NA                                      | NA                                  | NA                                       | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 0       | NA       | NA                                       | NA                                      | NA     | NA      | >10    | NA    |       |
| IP00480133   | PP1A    |         | 343    | 16                   | 6           | 1.70                                     | 1.23     | 1.12    | 1.20     | 1.36   | 0.96    | 0.59   | 0.78  | >10       | NA       | 10                                       | 1.21                                    | 0.97                                | 1.09                                     | 1.39     | 1.13   | 1.64    | 0.72   | 0.79  | >10       | NA       | 8       | 0.97     | 0.99                                     | 1.15                                    | 0.75   | 0.78    | 0.79   | >10   | NA    |
| IP00008380   | PPP2CA  |         | 216    | 7                    | 1           | 1.07                                     | 1.18     | 1.00    | 0.80     | 0.64   | 0.36    | 0.38   | 0.48  | 0.177     | 0.042    | 3  | 1.16                                    | 1.29                                | 1.24                                     | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 2       | 1.02     | NA                                       | 1.17                                    | NA     | 0.74    | NA     | >10   | NA    |
| IP00419307   | PPP2R1A |         | 310    | 19                   | 5           | 1.06                                     | 1.00     | 1.02    | 0.98     | 0.93   | 1.01    | 0.83   | 0.72  | >10       | NA       | 4  | 1.08                                    | 1.15                                | 0.96                                     | 0.76     | 0.78   | 1.01    | 0.53   | 0.47  | 6.010     | 0.582    | 3       | 1.11     | 1.08                                     | 1.16                                    | 1.18   | 0.76    | 1.30   | >10   | NA    |
| IP00332511   | PPP2R2A |         | 132    | 8                    | 3           | 1.12                                     | 1.27     | 1.23    | NA       | 1.27   | NA      | 1.03   | NA    | >10       | NA       | 2  | NA                                      | NA                                  | 0.98                                     | NA       | 0.81   | NA      | 0.56   | NA    | >10       | NA       | 3       | 1.14     | 1.10                                     | 1.07                                    | 0.85   | 0.99    | 0.84   | >10   | NA    |
| IP00184845   | PPP2R2D |         | 86     | 7                    | 2           | 0.96                                     | 0.90     | 0.83    | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 1  | 0.75                                    | 0.75                                | 0.59                                     | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 2       | 1.08     | NA                                       | 1.18                                    | NA     | 0.80    | NA     | >10   | NA    |
| IP00000674   | PRDX1   |         | 357    | 17                   | 8           | 1.53                                     | 1.28     | 1.12    | 1.14     | 1.22   | 0.85    | 0.97   | 0.93  | >10       | NA       | 10                                       | 1.06                                    | 1.00                                | 1.00                                     | 0.95     | 1.01   | 1.12    | 0.65   | 0.70  | >10       | NA       | 4       | 0.89     | 1.11                                     | 0.88                                    | 0.88   | 0.83    | 0.78   | >10   | NA    |
| IP00011937   | PRDX4   |         | 103    | 6                    | 3           | 0.71                                     | 1.32     | 1.07    | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 2  | 0.76                                    | 0.65                                | 0.85                                     | NA       | 0.83   | NA      | 0.75   | NA    | >10       | NA       | 1       | NA       | 1.20                                     | NA                                      | 0.98   | NA      | 0.58   | >10   | NA    |
| IP00220301   | PRDX8   |         | 252    | 10                   | 6           | 1.35                                     | 1.19     | 1.12    | 1.02     | 1.25   | 0.85    | 0.96   | 0.74  | >10       | NA       | 5  | 1.14                                    | 0.91                                | 0.87                                     | 1.15     | 0.89   | 1.15    | 0.67   | 1.11  | >10       | NA       | 5       | 0.96     | 1.48                                     | 1.04                                    | 0.82   | 0.80    | 0.79   | >10   | NA    |
| IP00410287   | PRKAA1  | AMPKα1  | 1943   | 213                  | 132         | 1.02                                     | 1.01     | 1.08    | 1.02     | 1.11   | 0.93    | 0.63   | 0.59  | >10       | 1.060    | 147                                      | 1.06                                    | 1.01                                | 1.04                                     | 1.12     | 0.88   | 1.07    | 0.72   | 0.63  | >10       | NA       | 71      | 1.08     | 1.21                                     | 0.92                                    | 0.88   | 0.89    | 0.80   | >10   | NA    |
| IP00220409   | PRKAB1  |         | 720    | 106                  | 44          | 0.91                                     | 0.94     | 1.12    | 1.01     | 1.21   | 0.98    | 0.91   | 0.63  | >10       | NA       | 37                                       | 1.05                                    | 0.99                                | 0.99                                     | 0.85     | 0.97   | 0.97    | 0.81   | 0.70  | >10       | NA       | 21      | 1.08     | 1.02                                     | 0.98                                    | 0.92   | 0.96    | 0.76   | >10   | NA    |
| IP00013905   | PRKAB2  |         | 482    | 39                   | 7           | 0.73                                     | 1.03     | 1.01    | 1.10     | 0.93   | 0.85    | 0.84   | 0.54  | >10       | 2.235    | 10                                       | 1.00                                    | 0.94                                | 1.01                                     | 0.91     | 1.12   | 0.86    | 0.83   | 0.86  | >10       | NA       | 5       | 1.11     | 0.78                                     | 0.96                                    | 0.76   | 0.93    | 0.78   | >10   | NA    |
| IP00413318   | PRKAG1  |         | 1831   | 145                  | 106         | 0.96                                     | 0.99     | 1.10    | 1.03     | 1.16   | 0.94    | 0.88   | 0.61  | >10       | NA       | 81                                       | 1.04                                    | 0.99                                | 0.96                                     | 1.01     | 0.97   | 0.99    | 0.78   | 0.78  | >10       | NA       | 52      | 1.17     | 1.04                                     | 1.02                                    | 0.93   | 0.88    | 0.79   | >10   | NA    |
| IP00005367   | PRKAG2  |         | 609    | 34                   | 9           | 1.10                                     | 1.04     | 0.96    | 1.06     | 0.88   | 1.05    | 0.60   | 0.68  | >10       | NA       | 10                                       | 1.29                                    | 1.10                                | 1.14                                     | 0.92     | 0.96   | 0.97    | 0.74   | 0.83  | >10       | NA       | 3       | 1.23     | 1.08                                     | 0.83                                    | 0.95   | 0.68    | 0.88   | >10   | NA    |
| IP00388449   | PRKCA   | PKCa    | 675    | 62                   | 5           | 0.74                                     | 0.85     | 0.97    | 0.96     | 1.02   | 0.91    | 0.83   | 0.70  | >10       | NA       | 6  | 0.94                                    | 0.96                                | 0.94                                     | 0.86     | 0.94   | 0.94    | 0.66   | 0.64  | >10       | NA       | 3       | 1.07     | 1.09                                     | 1.09                                    | 0.85   | 1.02    | 0.70   | >10   | NA    |
| IP00219628   | PRKCB1  | PKCb    | 1167   | 236                  | 63          | 0.76                                     | 0.78     | 0.99    | 1.02     | 1.14   | 0.93    | 0.92   | 0.80  | >10       | NA       | 69                                       | 0.92                                    | 0.95                                | 0.99                                     | 1.13     | 1.03   | 1.03    | 0.71   | 0.88  | >10       | NA       | 26      | 1.00     | 1.15                                     | 0.92                                    | 0.94   | 0.86    | 0.79   | >10   | NA    |
| IP00232926   | PRKCD   | PKCd    | 300    | 23                   | 4           | 0.56                                     | 0.92     | 1.13    | 0.84     | 1.09   | 0.82    | 0.88   | 0.66  | >10       | 0.009    | 5  | 0.86                                    | 0.77                                | 0.80                                     | 0.99     | 0.92   | 0.87    | 0.62   | 0.72  | >10       | NA       | 4       | 1.38     | 0.97                                     | 0.83                                    | 1.23   | 0.79    | 0.69   | >10   | NA    |
| IP00232926   | PRKCE   | PKCe    | 300    | 23                   | 2           | NA                                       | NA       | NA      | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 0  | NA                                      | NA                                  | NA                                       | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 0       | NA       | NA                                       | NA                                      | NA     | NA      | >10    | NA    |       |
| IP00029196   | PRKCK   | PKCκ    | 488    | 43                   | 12          | 0.87                                     | 0.95     | 0.98    | 1.04     | 1.13   | 0.92    | 0.84   | 0.49  | 7.913     | 1.565    | 15                                       | 0.93                                    | 0.89                                | 1.01                                     | 0.95     | 0.95   | 1.01    | 0.76   | 0.68  | >10       | NA       | 10      | 1.07     | 1.14                                     | 1.15                                    | 0.93   | 0.93    | 0.84   | >10   | NA    |
| IP00009334   | PRKD2   | PKD2    | 283    | 21                   | 4           | 0.98                                     | 0.93     | 1.10    | 1.20     | 1.20   | 1.01    | 0.90   | 0.68  | >10       | NA       | 3  | 1.17                                    | 1.25                                | 1.19                                     | 1.38     | 1.17   | 1.09    | 0.94   | 0.59  | >10       | 1.738    | 4       | 1.19     | 0.90                                     | 0.88                                    | 0.74   | 0.77    | 0.76   | >10   | NA    |
| IP00296337   | PRKDC   | DNAPK   | 5464   | 182                  | 142         | 1.06                                     | 1.02     | 1.03    | 0.98     | 1.02   | 0.84    | 0.78   | 0.64  | >10       | NA       | 133                                      | 1.07                                    | 1.03                                | 0.99                                     | 0.96     | 0.99   | 0.94    | 0.70   | 0.83  | >10       | NA       | 32      | 1.03     | 1.32                                     | 0.92                                    | 0.97   | 0.84    | 0.77   | >10   | NA    |
| IP00375380   | PSMD13  |         | 90     | 1                    | 1           | 1.69                                     | 1.18     | 0.97    | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 1  | 1.36                                    | 1.24                                | 0.25                                     | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 0       | NA       | NA                                       | NA                                      | NA     | NA      | >10    | NA    |       |
| IP00384051   | PSME2   |         | 62     | 6                    | 2           | NA                                       | NA       | 1.07    | 1.24     | 0.88   | 1.35    | 0.74   | 0.95  | >10       | NA       | 0  | NA                                      | NA                                  | NA                                       | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 0       | NA       | NA                                       | NA                                      | NA     | NA      | >10    | NA    |       |
| IP00170554   | PSTPIP2 |         | 201    | 14                   | 5           | 1.01                                     | 0.96     | 1.14    | 1.40     | 1.13   | 0.95    | 0.70   | 0.    |           |          |  |   |                                     |  |          |        |         |        |       |           |          |         |          |  |   |        |         |        |       |       |



| bosutinib    |         |          |                      |             |                                     |  |          |         |          |        |         |        |       |           | dasatinib |  |  |                                     |  |          |        |         |        |       |           |          |         |          |  | imatinib                               |        |         |        |       |       |  |  |  |  |  |  |  |  |  |
|--------------|---------|----------|----------------------|-------------|-------------------------------------|--|----------|---------|----------|--------|---------|--------|-------|-----------|-----------|--|--|-------------------------------------|--|----------|--------|---------|--------|-------|-----------|----------|---------|----------|--|--|--------|---------|--------|-------|-------|--|--|--|--|--|--|--|--|--|
| IPI acc. no. | Protein | Kinase   | highest Mascot score | highest SSM | highest SSM used for quantification | kinobeads binding relative to vehicle at |          |         |          |        |         |        |       |           |           | [cpd] causing 50% binding reduction (µM) | [cpd] at infection point of curve (µM) | highest SSM used for quantification | kinobeads binding relative to vehicle at |          |        |         |        |       |           |          |         |          | [cpd] causing 50% binding reduction (µM) | [cpd] at infection point of curve (µM) |        |         |        |       |       |  |  |  |  |  |  |  |  |  |
|              |         |          |                      |             |                                     | 0.0001 µM                                | 0.001 µM | 0.01 µM | 0.033 µM | 0.1 µM | 0.33 µM | 1.0 µM | 10 µM | 0.0001 µM | 0.001 µM  |  |  |                                     | 0.01 µM                                  | 0.033 µM | 0.1 µM | 0.33 µM | 1.0 µM | 10 µM | 0.0001 µM | 0.001 µM | 0.01 µM | 0.033 µM |  |  | 0.1 µM | 0.33 µM | 1.0 µM | 10 µM |       |  |  |  |  |  |  |  |  |  |
|              |         |          |                      |             |                                     | µM                                       | µM       | µM      | µM       | µM     | µM      | µM     | µM    | µM        | µM        |  |  |                                     | µM                                       | µM       | µM     | µM      | µM     | µM    | µM        | µM       | µM      | µM       |  |  | µM     | µM      | µM     | µM    |       |  |  |  |  |  |  |  |  |  |
| IP00000878   | TEC     | TEC      | 2469                 | 213         | 126                                 | 0.99                                     | 0.98     | 1.00    | 0.95     | 0.98   | 0.80    | 0.63   | 0.46  | 2.964     | 0.567     | 103                                      | 1.06                                   | 0.98                                | 0.96                                     | 0.69     | 0.52   | 0.38    | 0.24   | 0.21  | 0.115     | 0.060    | 88      | 1.01     | 1.07                                     | 0.93                                   | 0.87   | 0.80    | 0.70   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00102677   | TESK2   | TESK2    | 309                  | 21          | 6                                   | 0.99                                     | 1.03     | 1.01    | 1.08     | 1.06   | 1.03    | 0.73   | 0.90  | >10       | NA        | 5  | 0.93                                   | 0.92                                | 0.98                                     | 0.88     | 0.80   | 0.65    | 0.38   | 0.30  | 0.582     | 0.348    | 7       | 0.95     | 1.25                                     | 0.94                                   | 0.84   | 0.92    | 0.73   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00294619   | TGF     |          | 405                  | 18          | 2                                   | 1.07                                     | 0.98     | 0.87    | NA       | NA     | NA      | NA     | NA    | >10       | NA        | 2  | 0.86                                   | 0.81                                | 0.75                                     | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 0       | NA       | NA                                       | NA                                     | NA     | NA      | >10    | NA    |       |  |  |  |  |  |  |  |  |  |
| IP00005733   | TGFBFR1 | TGFBFR1  | 522                  | 26          | 13                                  | 0.96                                     | 1.00     | 1.01    | 0.93     | 1.07   | 0.92    | 0.91   | 0.67  | >10       | NA        | 13                                       | 0.96                                   | 0.98                                | 0.91                                     | 1.06     | 0.93   | 0.92    | 0.71   | 0.69  | >10       | NA       | 7       | 1.04     | 1.13                                     | 0.96                                   | 0.92   | 0.94    | 0.73   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00164934   | TGFBFR2 | TGFBFR2  | 87                   | 4           | 3                                   | 0.96                                     | 0.98     | 0.88    | NA       | NA     | NA      | NA     | NA    | >10       | NA        | 2  | 0.87                                   | 0.68                                | 0.90                                     | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 0       | NA       | NA                                       | NA                                     | NA     | NA      | >10    | NA    |       |  |  |  |  |  |  |  |  |  |
| IP00328840   | THOC4   |          | 101                  | 12          | 1                                   | 0.80                                     | 0.83     | 0.72    | NA       | NA     | NA      | NA     | NA    | >10       | NA        | 2  | 0.77                                   | 0.85                                | 0.81                                     | NA       | 0.79   | NA      | 0.67   | NA    | >10       | NA       | 1       | 1.50     | 1.78                                     | 1.07                                   | 1.14   | 1.14    | 0.75   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00021716   | TKT     |          | 119                  | 5           | 1                                   | 1.20                                     | 0.91     | 1.27    | NA       | NA     | NA      | NA     | NA    | >10       | NA        | 1  | 0.92                                   | 0.60                                | 0.93                                     | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 0       | NA       | NA                                       | NA                                     | NA     | NA      | >10    | NA    |       |  |  |  |  |  |  |  |  |  |
| IP00145805   | TNIK    | ZC2_TNIK | 243                  | 22          | 4                                   | 0.92                                     | 0.93     | 0.89    | 0.74     | NA     | 0.48    | NA     | 0.25  | 0.268     | 0.144     | 7  | 1.01                                   | 0.96                                | 1.02                                     | 0.91     | 1.02   | 0.57    | 0.62   | 0.38  | >10       | 0.250    | 2       | 0.99     | 1.36                                     | 1.01                                   | 1.05   | 0.81    | 0.70   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00222633   | TNK1    | TNK1     | 713                  | 49          | 19                                  | 1.13                                     | 1.06     | 1.05    | 1.00     | 1.04   | 0.91    | 0.82   | 0.76  | >10       | NA        | 23                                       | 1.06                                   | 1.07                                | 0.96                                     | 0.84     | 0.91   | 0.84    | 0.69   | 0.66  | >10       | NA       | 13      | 1.04     | 1.17                                     | 1.04                                   | 0.96   | 0.81    | 0.76   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00442025   | TNK2    | ACK      | 530                  | 29          | 15                                  | 1.02                                     | 1.09     | 1.05    | 0.98     | 0.65   | 0.51    | 0.32   | 0.863 | 0.316     | 18        | 1.16                                     | 1.06                                   | 0.98                                | 0.87                                     | 0.76     | 0.58   | 0.39    | 0.35   | 0.475 | 0.172     | 12       | 1.01    | 1.16     | 0.95                                     | 1.01                                   | 0.82   | 0.76    | >10    | NA    |       |  |  |  |  |  |  |  |  |  |
| IP00465028   | TRP1    |          | 131                  | 4           | 1                                   | 1.38                                     | 1.29     | 1.11    | 0.97     | NA     | 0.60    | NA     | 0.43  | 0.569     | 0.211     | 2  | 0.81                                   | 0.58                                | 1.06                                     | NA       | 1.15   | NA      | 0.91   | NA    | >10       | 0.004    | 1       | 0.81     | NA                                       | 1.08                                   | NA     | 0.92    | NA     | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00292635   | TRAF2   |          | 397                  | 26          | 11                                  | 0.90                                     | 0.84     | 1.18    | 1.04     | 1.09   | 0.97    | 0.79   | 0.45  | 3.000     | 1.190     | 14                                       | 0.92                                   | 0.87                                | 1.00                                     | 0.86     | 1.02   | 1.01    | 0.69   | 0.72  | >10       | NA       | 7       | 1.00     | 1.99                                     | 0.96                                   | 0.87   | 0.74    | 0.79   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00395631   | TRAF7   |          | 99                   | 5           | 1                                   | NA                                       | NA       | 0.97    | 0.89     | 1.17   | 1.00    | 0.63   | 1.04  | >10       | NA        | 1  | NA                                     | NA                                  | 0.95                                     | 1.22     | 1.09   | 1.01    | 0.65   | 0.94  | >10       | NA       | 1       | NA       | 1.60                                     | NA                                     | 0.92   | NA      | 0.84   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00432462   | TRIM59  |          | 348                  | 27          | 6                                   | 1.37                                     | 1.17     | 1.15    | 0.80     | 1.52   | 1.06    | 1.05   | 0.72  | >10       | NA        | 6  | 1.11                                   | 0.94                                | 1.02                                     | NA       | 1.39   | NA      | 0.86   | NA    | >10       | NA       | 3       | 1.00     | 0.98                                     | 1.28                                   | 0.93   | 0.99    | 0.84   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00178709   | TUBA2   |          | 1060                 | 38          | 1                                   | NA                                       | NA       | NA      | NA       | NA     | NA      | NA     | NA    | >10       | NA        | 0  | NA                                     | NA                                  | NA                                       | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 1       | 0.77     | NA                                       | 0.66                                   | NA     | 0.81    | NA     | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00387144   | TUBA6   |          | 1481                 | 231         | 58                                  | 1.08                                     | 1.04     | 1.13    | 1.07     | 1.12   | 0.95    | 0.84   | 0.70  | >10       | NA        | 73                                       | 1.06                                   | 0.92                                | 1.02                                     | 0.84     | 1.04   | 0.92    | 0.67   | 0.67  | >10       | NA       | 38      | 1.06     | 1.09                                     | 1.00                                   | 0.88   | 0.83    | 0.75   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP0011654    | TUBB    |          | 1688                 | 116         | 31                                  | 0.90                                     | 0.97     | 1.21    | 1.10     | 1.18   | 0.96    | 0.96   | 0.75  | >10       | NA        | 25                                       | 1.05                                   | 1.06                                | 1.01                                     | 1.12     | 0.97   | 1.24    | 0.70   | 0.89  | >10       | NA       | 12      | 1.07     | 1.15                                     | 0.90                                   | 0.89   | 0.77    | 0.70   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00013475   | TUBB2A  |          | 1016                 | 78          | 0                                   | NA                                       | NA       | NA      | NA       | NA     | NA      | NA     | NA    | >10       | NA        | 0  | 1.11                                   | 1.09                                | 0.97                                     | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 1       | 1.17     | NA                                       | 0.80                                   | NA     | 0.64    | NA     | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00655896   | TUBB4   |          | 1488                 | 102         | 15                                  | 1.07                                     | 1.08     | 1.12    | 1.09     | 0.90   | 0.99    | 0.75   | 0.68  | >10       | NA        | 12                                       | 0.87                                   | 0.77                                | 0.93                                     | 0.78     | 1.03   | 0.77    | 0.67   | 0.51  | >10       | 1.043    | 9       | 0.94     | 1.29                                     | 0.94                                   | 1.09   | 0.74    | 0.85   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00027107   | TUFM    |          | 131                  | 5           | 3                                   | 0.95                                     | 1.00     | 1.05    | NA       | NA     | NA      | NA     | NA    | >10       | NA        | 3  | 0.74                                   | 0.77                                | 0.73                                     | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 0       | NA       | NA                                       | NA                                     | NA     | NA      | NA     | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00470779   | TXLNA   |          | 107                  | 8           | 0                                   | NA                                       | NA       | NA      | NA       | NA     | NA      | NA     | NA    | >10       | NA        | 2  | 0.78                                   | 0.73                                | 0.69                                     | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 1       | 1.55     | NA                                       | 1.09                                   | NA     | 0.99    | NA     | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00216298   | TXN     |          | 61                   | 6           | 2                                   | NA                                       | NA       | 1.27    | 1.11     | 1.32   | 0.87    | 1.51   | 1.12  | >10       | NA        | 0  | NA                                     | NA                                  | NA                                       | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 0       | NA       | NA                                       | NA                                     | NA     | NA      | NA     | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00395887   | TXNDC   |          | 124                  | 8           | 2                                   | 0.89                                     | 0.95     | 1.45    | 0.99     | 1.40   | 0.85    | 0.91   | 0.76  | >10       | NA        | 4  | NA                                     | NA                                  | 0.88                                     | 0.87     | 0.95   | 0.95    | 0.66   | 0.72  | >10       | NA       | 2       | 1.08     | 1.46                                     | 0.98                                   | 0.99   | 0.76    | 0.75   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00022353   | TYK2    | TYK2     | 1787                 | 118         | 62                                  | 0.96                                     | 0.95     | 1.00    | 1.00     | 1.00   | 0.90    | 0.80   | 0.70  | >10       | NA        | 63                                       | 1.08                                   | 1.02                                | 0.99                                     | 0.90     | 0.88   | 0.90    | 0.64   | 0.50  | >10       | 0.835    | 38      | 1.07     | 1.18                                     | 0.99                                   | 0.95   | 0.86    | 0.79   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00328348   | UBA52   |          | 159                  | 11          | 3                                   | NA                                       | NA       | 0.98    | NA       | 0.77   | NA      | 0.47   | NA    | 0.336     | NA        | 8  | NA                                     | NA                                  | NA                                       | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 2       | 0.96     | NA                                       | 0.94                                   | NA     | 0.78    | NA     | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00411818   | ULK3    |          | 933                  | 45          | 24                                  | 0.96                                     | 1.00     | 1.77    | 1.10     | 1.09   | 1.09    | 0.72   | 0.58  | >10       | 0.842     | 33                                       | 0.98                                   | 0.94                                | 1.74                                     | 0.82     | 1.09   | 0.95    | 0.93   | 0.68  | >10       | NA       | 14      | 1.07     | 1.05                                     | 1.08                                   | 0.92   | 0.95    | 0.75   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00640597   | VARSL   |          | 100                  | 4           | 1                                   | 1.34                                     | 1.63     | 1.36    | NA       | NA     | NA      | NA     | NA    | >10       | NA        | 1  | 1.67                                   | 0.94                                | 0.50                                     | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 1       | NA       | 0.87                                     | NA                                     | 1.06   | NA      | 0.64   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00478540   | VCP     |          | 105                  | 3           | 2                                   | 0.88                                     | 0.96     | 1.41    | NA       | 1.43   | NA      | 1.05   | NA    | >10       | NA        | 1  | 0.96                                   | 0.92                                | 0.72                                     | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 1       | 0.87     | 3.05                                     | 0.77                                   | 1.69   | 0.94    | 0.61   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00434871   | VIM     |          | 154                  | 8           | 4                                   | 0.84                                     | 0.76     | 0.88    | NA       | NA     | NA      | NA     | NA    | >10       | NA        | 2  | 0.93                                   | 0.61                                | 0.98                                     | NA       | 0.96   | NA      | 0.98   | NA    | >10       | NA       | 2       | 0.43     | 1.29                                     | 0.52                                   | 1.07   | 0.49    | 0.49   | >10   | 0.013 |  |  |  |  |  |  |  |  |  |
| IP00006754   | WDR68   |          | 222                  | 7           | 3                                   | 0.84                                     | 0.74     | 1.60    | NA       | 1.63   | NA      | 0.98   | NA    | >10       | NA        | 2  | 0.93                                   | 0.98                                | 1.13                                     | 0.81     | 1.25   | 1.35    | 0.92   | 0.72  | >10       | NA       | 1       | 0.98     | NA                                       | 0.80                                   | NA     | 0.82    | NA     | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00025830   | Wee1    | Wee1     | 1415                 | 100         | 56                                  | 0.93                                     | 0.99     | 1.02    | 1.06     | 1.08   | 0.90    | 0.74   | 0.44  | 3.471     | 1.027     | 64                                       | 1.00                                   | 1.00                                | 0.95                                     | 0.97     | 0.87   | 0.94    | 0.63   | 0.53  | >10       | 0.727    | 33      | 1.06     | 1.26                                     | 1.04                                   | 0.95   | 0.84    | 0.76   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00298961   | XPO1    |          | 476                  | 22          | 11                                  | 1.04                                     | 0.91     | 1.02    | NA       | NA     | NA      | NA     | NA    | >10       | NA        | 15                                       | 1.08                                   | 0.99                                | 0.93                                     | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 1       | NA       | 1.76                                     | NA                                     | 0.91   | NA      | 1.03   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00640703   | XPO5    |          | 275                  | 12          | 5                                   | 1.11                                     | 1.05     | 1.91    | NA       | 1.27   | NA      | 0.90   | NA    | >10       | NA        | 4  | 1.25                                   | 1.21                                | 1.00                                     | 1.18     | 1.00   | 1.29    | 0.38   | 0.67  | >10       | 0.594    | 1       | 0.69     | 0.69                                     | NA                                     | 0.76   | NA      | 0.74   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00324058   | XPO7    |          | 165                  | 6           | 5                                   | 1.11                                     | 1.04     | 0.84    | NA       | NA     | NA      | NA     | NA    | >10       | NA        | 2  | 1.06                                   | 0.90                                | 1.00                                     | NA       | NA     | NA      | NA     | NA    | >10       | NA       | 0       | NA       | NA                                       | NA                                     | NA     | NA      | NA     | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00306296   | XPO7    |          | 98                   | 1           | 3                                   | 1.02                                     | 1.74     | 0.90    | 0.72     | 0.98   | NA      | 1.06   | >10   | NA        | 5         | 0.86                                     | 0.74                                   | 0.97                                | 1.25                                     | 0.64     | 1.17   | 0.64    | 0.84   | >10   | NA        | 0        | NA      | NA       | NA                                       | NA                                     | NA     | NA      | >10    | NA    |       |  |  |  |  |  |  |  |  |  |
| IP00013981   | YES1    | YES      | 1903                 | 218         | 74                                  | 0.90                                     | 0.94     | 0.97    | 0.81     | 0.85   | 0.59    | 0.49   | 0.29  | 0.784     | 0.404     | 29                                       | 0.89                                   | 0.85                                | 0.82                                     | 0.67     | 0.51   | 0.38    | 0.22   | 0.18  | 0.105     | 0.987    | 50      | 1.07     | 1.46                                     | 0.98                                   | 0.90   | 0.87    | 0.75   | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00216318   | YWHAB   |          | 422                  | 22          | 4                                   | 0.76                                     | 0.87     | 1.14    | 0.74     | NA     | 0.80    | NA     | 0.27  | 1.447     | 0.774     | 1  | 0.91                                   | 1.50                                | 0.96                                     | NA       | 0.96   | NA      | 0.38   | NA    | 0.268     | 0.153    | 1       | 0.82     | NA                                       | 1.04                                   | NA     | 0.80    | NA     | >10   | NA    |  |  |  |  |  |  |  |  |  |
| IP00000816   | YWHAE   |          | 646                  | 41          | 7                                   | 0.93                                     | 0.94     | 1.11    | 0.72     | 0.73   | 0.44    | 0.45   | 0.31  | 0.286     | 0.109     | 17                                       | 0.87                                   | 0.73                                | 0.79                                     | 0.65     | 0.53   | 0.61    | 0.36   | 0.37  | 0.435     | 0.152    | 16      | 1.03     | 1.09                                     | 0.88                                   | 0.77   | 0.61    | 0.47   | 4.174 | 0.299 |  |  |  |  |  |  |  |  |  |
| IP00220842   | YWHAG   |          | 895                  | 36          | 25                                  | 0.95                                     | 1.00     | 0.95    | 0.82     | 0.69   | 0.51    | 0.39   | 0.33  | 0.341     | 0.211     | 25                                       | 0.89                                   | 0.85                                | 0.81                                     | 0.68     | 0.     |         |        |       |           |          |         |          |  |  |        |         |        |       |       |  |  |  |  |  |  |  |  |  |

Kinobeads competition data calculated from iTRAQ reporter signals for compounds added to K562 cells in culture (data for Supplementary Fig. 5)

Abbreviations: SSM: number of spectrum-to-sequence matches. NA: not available.

| bosutinib    |                |        |                      |             |                                     |  |               |              |               | dasatinib   |              |             |             |  |   |  |                |               |              | imatinib      |             |              |             |             |  |   |                                     |              |               |             |              |             |             |  |   |    |
|--------------|----------------|--------|----------------------|-------------|-------------------------------------|--|---------------|--------------|---------------|-------------|--------------|-------------|-------------|--|---|--|----------------|---------------|--------------|---------------|-------------|--------------|-------------|-------------|--|---|-------------------------------------|--------------|---------------|-------------|--------------|-------------|-------------|--|---|----|
| IPI acc. no. | Protein        | Kinase | highest Mascot score | highest SSM | highest SSM used for quantification | kinobeads binding relative to vehicle at |               |              |               |             |              |             |             |  |   | kinobeads binding relative to vehicle at |                |               |              |               |             |              |             |             |  | kinobeads binding relative to vehicle at      |                                     |              |               |             |              |             |             |  |   |    |
|              |                |        |                      |             |                                     | 0.0001 $\mu$ M                           | 0.001 $\mu$ M | 0.01 $\mu$ M | 0.033 $\mu$ M | 0.1 $\mu$ M | 0.33 $\mu$ M | 1.0 $\mu$ M | 5.0 $\mu$ M | [cpd] causing 50% binding reduction ( $\mu$ M) | [cpd] at inflection point of curve ( $\mu$ M) | highest SSM used for quantification      | 0.0001 $\mu$ M | 0.001 $\mu$ M | 0.01 $\mu$ M | 0.033 $\mu$ M | 0.1 $\mu$ M | 0.33 $\mu$ M | 1.0 $\mu$ M | 5.0 $\mu$ M | [cpd] causing 50% binding reduction ( $\mu$ M) | [cpd] at inflection point of curve ( $\mu$ M) | highest SSM used for quantification | 0.01 $\mu$ M | 0.033 $\mu$ M | 0.1 $\mu$ M | 0.33 $\mu$ M | 1.0 $\mu$ M | 5.0 $\mu$ M | [cpd] causing 50% binding reduction ( $\mu$ M) | [cpd] at inflection point of curve ( $\mu$ M) |    |
| PI00012197   | XTP3TPA        |        | 421                  | 16          | 11                                  | 1.113                                    | 1.171         | 1.148        | 0.912         | 0.908       | 0.877        | 0.752       | 0.727       | >5   | NA  | 6  | 0.767          | 0.884         | 0.969        | 0.697         | 1.213       | 1.162        | 0.755       | 0.608       | >5   | NA  | 5                                   | 0.948        | 1.095         | 1.134       | 1.076        | 0.768       | 0.911       | >5   | NA  |    |
| PI00642069   | 32 KDA PROTEIN |        | 45                   | 4           | 0                                   | NA                                       | NA            | NA           | NA            | NA          | NA           | NA          | NA          | >5   | NA  | 1  | NA             | NA            | NA           | NA            | NA          | 0.885        | NA          | 0.526       | >5   | NA  | 0                                   | NA           | NA            | NA          | NA           | NA          | NA          | >5   | NA  |    |
| PI00472946   | 52 KDA PROTEIN |        | 88                   | 4           | 2                                   | 1.058                                    | 1.038         | 1.139        | NA            | NA          | NA           | NA          | NA          | >5   | NA  | 1  | NA             | NA            | NA           | NA            | NA          | 1.073        | NA          | 0.467       | 2.598  | >5  | NA                                  | 0            | NA            | NA          | NA           | NA          | NA          | NA   | >5  | NA |
| PI0028977    | AAK1           |        | 129                  | 111         | 35                                  | 0.959                                    | 0.945         | 0.906        | 0.829         | 0.812       | 0.675        | 0.487       | 0.397       | 1.193  | 0.411   | 42                                       | 0.815          | 0.982         | 0.883        | 0.842         | 1.052       | 0.876        | 0.903       | 0.684       | >5   | NA  | 28                                  | 1.247        | 1.142         | 1.322       | 1.249        | 0.857       | 0.992       | >5   | NA  |    |
| PI0063827    | ABHD14B        |        | 60                   | 4           | 0                                   | NA                                       | NA            | NA           | NA            | NA          | NA           | NA          | NA          | >5   | NA  | 1  | NA             | NA            | 1.009        | 1.031         | 1.412       | 0.851        | 0.566       | 0.572       | >5   | 0.364   | 1                                   | 0.952        | 1.637         | 1.347       | 1.903        | 0.794       | 0.768       | >5   | NA  |    |
| PI00329488   | ABL2           | ARG    | 2193                 | 523         | 64                                  | 0.955                                    | 0.919         | 0.466        | 0.283         | 0.281       | 0.239        | 0.181       | 0.149       | 0.009  | 0.006   | 51                                       | 0.997          | 0.747         | 0.299        | 0.094         | 0.219       | 0.162        | 0.150       | 0.094       | 0.003  | 0.002   | 49                                  | 0.972        | 0.834         | 0.906       | 0.635        | 0.468       | 0.330       | 0.741  | 0.393   |    |
| PI00020226   | ACTG3          |        | 1036                 | 64          | 30                                  | 0.952                                    | 0.944         | 0.992        | 0.841         | 0.914       | 0.806        | 0.814       | 0.673       | >5   | NA  | 32                                       | 0.947          | 1.032         | 0.981        | 0.934         | 1.206       | 1.132        | 0.797       | 0.705       | >5   | NA  | 24                                  | 1.108        | 0.883         | 1.120       | 1.049        | 0.840       | 0.715       | >5   | NA  |    |
| PI00021439   | ACTG1          |        | 994                  | 98          | 39                                  | 1.034                                    | 1.079         | 0.893        | 0.672         | 0.792       | 0.650        | 0.505       | 0.478       | 2.383  | 0.065   | 40                                       | 1.277          | 1.422         | 1.143        | 1.350         | 0.982       | 1.072        | 0.636       | 0.520       | >5   | 0.833   | 32                                  | 1.135        | 1.145         | 1.189       | 1.094        | 0.798       | 0.884       | >5   | NA  |    |
| PI00013808   | ACTN4          |        | 99                   | 13          | 2                                   | NA                                       | NA            | 1.030        | 0.866         | 0.857       | 0.909        | 0.729       | 0.744       | >5   | NA  | 2  | NA             | NA            | 1.122        | 1.789         | 1.099       | 1.600        | 0.783       | 1.108       | >5   | NA  | 1                                   | 1.096        | NA            | 1.008       | NA           | 1.184       | NA          | >5   | NA  |    |
| PI0029219    | ACVR1          | ALK2   | 432                  | 28          | 13                                  | 1.344                                    | 1.125         | 1.056        | 0.873         | 0.854       | 0.761        | 0.658       | 0.616       | >5   | NA  | 14                                       | 0.626          | 0.998         | 1.007        | 0.749         | 1.038       | 0.851        | 0.776       | 0.563       | >5   | 1.395   | 12                                  | 1.103        | 1.006         | 1.104       | 1.021        | 0.737       | 0.895       | >5   | NA  |    |
| PI00057332   | ACVR1B         | ALK4   | 190                  | 15          | 1                                   | 0.877                                    | 0.982         | 1.030        | 0.998         | NA          | 0.223        | NA          | 0.121       | 0.019  | 0.018   | 0  | NA             | NA            | NA           | NA            | NA          | NA           | NA          | NA          | >5   | NA  | 0                                   | NA           | NA            | NA          | NA           | NA          | NA          | >5   | NA  |    |
| PI00115691   | ACVR2          | ACTR2  | 231                  | 9           | 1                                   | 1.338                                    | 1.101         | 1.183        | NA            | NA          | NA           | NA          | NA          | >5   | NA  | 2  | 0.898          | 1.215         | 1.288        | 0.996         | NA          | 0.563        | NA          | 0.540       | >5   | 0.050   | 0                                   | NA           | NA            | NA          | NA           | NA          | >5          | NA   |   |    |
| PI00437566   | ACVR2B         | ACTR2B | 289                  | 16          | 5                                   | 1.233                                    | 0.982         | 0.941        | 0.783         | 0.814       | 0.671        | 0.527       | 0.496       | 3.407  | 0.153   | 5  | 0.789          | 0.979         | 0.902        | 0.908         | 1.008       | 0.799        | 0.580       | 0.395       | 1.403  | 0.732   | 5                                   | 1.253        | 0.860         | 1.194       | 0.988        | 0.869       | 0.697       | >5   | NA  |    |
| PI00007709   | ADAM28         |        | 57                   | 3           | 1                                   | 1.076                                    | 0.917         | 0.939        | 0.815         | 0.928       | 0.802        | 0.665       | 0.707       | >5   | NA  | 0  | NA             | NA            | NA           | NA            | NA          | NA           | NA          | NA          | >5   | NA  | 0                                   | NA           | NA            | NA          | NA           | NA          | NA          | >5   | NA  |    |
| PI00412099   | ADCK1          | ADCK1  | 110                  | 10          | 1                                   | 1.142                                    | NA            | 1.239        | NA            | 1.297       | NA           | 0.556       | NA          | >5   | NA  | 2  | NA             | NA            | 0.858        | NA            | 1.063       | NA           | 0.912       | NA          | >5   | NA  | 2                                   | 1.055        | 1.026         | 1.087       | 1.114        | 0.768       | 0.985       | >5   | NA  |    |
| PI00282079   | ADCK1          |        | 1231                 | 113         | 60                                  | 0.802                                    | 0.897         | 0.868        | 0.788         | 0.793       | 0.600        | 0.587       | 0.545       | >5   | 0.687   | 32                                       | 0.973          | 0.959         | 0.957        | 1.053         | 1.010       | 0.916        | 0.700       | 0.441       | 2.479  | 0.977   | 28                                  | 0.865        | 1.000         | 1.023       | 0.979        | 0.876       | 0.857       | >5   | NA  |    |
| PI00004344   | AFF4           |        | 215                  | 24          | 3                                   | 0.915                                    | 1.000         | 0.859        | 0.874         | 0.793       | 0.746        | 0.561       | 0.490       | 3.624  | 0.470   | 1  | 1.004          | 1.175         | 1.100        | NA            | 1.069       | NA           | 0.842       | NA          | >5   | NA  | 2                                   | 0.874        | 0.832         | 1.142       | 1.513        | 0.800       | 0.881       | >5   | NA  |    |
| PI00646823   | AHCY           |        | 52                   | 5           | 1                                   | NA                                       | NA            | 1.095        | NA            | 0.907       | NA           | 0.813       | NA          | >5   | NA  | 0  | NA             | NA            | NA           | NA            | NA          | NA           | NA          | NA          | >5   | NA  | 0                                   | NA           | NA            | NA          | NA           | NA          | NA          | >5   | NA  |    |
| PI00215901   | AK2            |        | 75                   | 4           | 0                                   | NA                                       | NA            | NA           | NA            | NA          | NA           | NA          | NA          | >5   | NA  | 2  | NA             | NA            | 0.938        | NA            | 0.814       | NA           | 0.438       | NA          | 0.308  | NA  | 1                                   | NA           | 1.242         | NA          | 1.250        | NA          | 1.307       | >5   | NA  |    |
| PI00216805   | ALDH1A2        |        | 74                   | 5           | 1                                   | 0.902                                    | 0.977         | 0.851        | NA            | NA          | NA           | NA          | NA          | >5   | NA  | 0  | NA             | NA            | NA           | NA            | NA          | NA           | NA          | NA          | >5   | NA  | 0                                   | NA           | NA            | NA          | NA           | NA          | NA          | >5   | NA  |    |
| PI00226663   | ALDH1A3        |        | 55                   | 3           | 0                                   | NA                                       | NA            | NA           | NA            | NA          | NA           | NA          | NA          | >5   | NA  | 1  | NA             | NA            | 0.701        | NA            | 0.868       | NA           | 0.764       | NA          | >5   | NA  | 0                                   | NA           | NA            | NA          | NA           | NA          | NA          | >5   | NA  |    |
| PI00103467   | ALDH1B1        |        | 30                   | 5           | 1                                   | 1.180                                    | 1.063         | 1.141        | NA            | NA          | NA           | NA          | NA          | >5   | NA  | 0  | NA             | NA            | NA           | NA            | NA          | NA           | NA          | NA          | >5   | NA  | 0                                   | NA           | NA            | NA          | NA           | NA          | NA          | >5   | NA  |    |
| PI00465439   | ALDOA          |        | 280                  | 17          | 7                                   | NA                                       | NA            | 0.782        | 1.003         | 0.939       | 1.047        | 0.656       | 0.705       | >5   | NA  | 6  | NA             | NA            | 1.088        | 1.077         | 0.998       | 1.140        | 0.752       | 0.666       | >5   | NA  | 6                                   | 1.281        | 0.968         | 0.991       | 0.842        | 0.900       | 0.833       | >5   | NA  |    |
| PI00005731   | ALG3           | BMPR1A | 210                  | 10          | 3                                   | 1.220                                    | 1.135         | 0.892        | 0.864         | 1.026       | 0.635        | 0.617       | 0.702       | >5   | NA  | 5  | 0.866          | 0.979         | 0.989        | NA            | 1.119       | 1.055        | 0.783       | 0.658       | >5   | NA  | 4                                   | 1.050        | 1.008         | 1.314       | 1.043        | 0.963       | 0.965       | >5   | NA  |    |
| PI00008247   | ANAPC4         |        | 42                   | 3           | 1                                   | 0.770                                    | 0.913         | 0.612        | NA            | 0.363       | NA           | 0.331       | NA          | 0.037  | 0.012   | 1  | NA             | NA            | NA           | 0.609         | NA          | 0.890        | NA          | 1.290       | >5   | NA  | 0                                   | NA           | 0             | NA          | NA           | NA          | NA          | >5   | NA  |    |
| PI00008248   | ANAPC7         |        | 77                   | 5           | 1                                   | NA                                       | NA            | 0.773        | 0.774         | 1.337       | 0.555        | 0.457       | 0.438       | 0.367  | 0.280   | 1  | NA             | NA            | 0.325        | NA            | 1.089       | NA           | 0.332       | NA          | >5   | NA  | 1                                   | NA           | 1.604         | NA          | 1.068        | NA          | 0.758       | >5   | NA  |    |
| PI00025649   | ANAPC2         |        | 87                   | 6           | 1                                   | NA                                       | NA            | 1.000        | 0.936         | 0.632       | 0.793        | 0.609       | 0.694       | >5   | NA  | 3  | NA             | NA            | 1.686        | 0.910         | 1.295       | 1.235        | 0.978       | 1.214       | >5   | NA  | 1                                   | 1.394        | NA            | 1.185       | NA           | 2.342       | NA          | >5   | NA  |    |
| PI00007423   | APB3B          |        | 81                   | 6           | 0                                   | NA                                       | NA            | NA           | NA            | NA          | NA           | NA          | NA          | >5   | NA  | 0  | NA             | NA            | 0.675        | NA            | NA          | 1.045        | NA          | >5          | NA   | 0   | NA                                  | 1.094        | NA            | NA          | NA           | 1.072       | >5          | NA   |   |    |
| PI00218918   | ANXA1          |        | 56                   | 6           | 0                                   | NA                                       | NA            | NA           | NA            | NA          | NA           | NA          | NA          | >5   | NA  | 1  | 1.277          | 1.267         | 1.435        | NA            | 1.631       | 1.150        | 0.991       | 0.404       | 3.085  | 2.606   | 1                                   | 1.221        | NA            | 1.497       | NA           | 0.975       | NA          | >5   | NA  |    |
| PI00418169   | ANXA2          |        | 91                   | 7           | 2                                   | NA                                       | NA            | NA           | 0.615         | NA          | 0.800        | NA          | 0.463       | 3.055  | NA  | 1  | NA             | NA            | 0.907        | NA            | 1.105       | 1.250        | 0.919       | 1.035       | >5   | NA  | 2                                   | 0.770        | 1.092         | 1.248       | 1.220        | 0.596       | 0.859       | >5   | 0.574   |    |
| PI00334577   | AP2A1          |        | 201                  | 31          | 8                                   | 1.036                                    | 0.852         | 0.571        | 0.622         | 0.511       | 0.520        | 0.329       | 0.326       | 0.095  | 0.013   | 6  | 0.940          | 0.731         | 0.532        | 0.421         | 0.592       | 0.489        | 0.418       | 0.323       | 0.025  | 0.001   | 10                                  | 1.288        | 0.908         | 0.894       | 0.720        | 0.566       | 0.481       | 2.737  | 0.292   |    |
| PI00014621   | AP2B           |        | 570                  | 11          | 2                                   | 1.144                                    | 1.125         | 0.677        | NA            | NA          | NA           | NA          | NA          | >5   | NA  | 0  | NA             | NA            | NA           | NA            | NA          | NA           | NA          | NA          | >5   | NA  | 0                                   | NA           | NA            | NA          | NA           | NA          | NA          | >5   | NA  |    |
| PI00220991   | AP2B1          |        | 295                  | 29          | 8                                   | 1.039                                    | 0.957         | 0.561        | 0.561         | 0.409       | 0.503        | 0.263       | 0.311       | 0.045  | 0.005   | 8  | 0.860          | 0.748         | 0.580        | 0.630         | 0.463       | 0.378        | 0.333       | 0.123       | 0.023  | 9   | 1.221                               | 0.918        | 1.010         | 0.691       | 0.615        | 0.499       | >5          | 0.269  |   |    |
| PI00022256   | AP2M1          |        | 160                  | 16          | 4                                   | 1.379                                    | 0.967         | 0.732        | 0.472         | 0.649       | 0.408        | NA          | 0.278       | 0.077  | 0.019   | 3  | 1.723          | 0.868         | 0.710        | NA            | 0.627       | 0.509        | 0.412       | 0.448       | 0.215  | 0.012   | 5                                   | 1.207        | NA            | 1.112       | NA           | 0.698       | NA          | >5   | NA  |    |
| PI00218840   | AP2S1          |        | 53                   | 5           | 2                                   | 1.052                                    | 1.132         | 0.838        | NA            | NA          | NA           | NA          | NA          | >5   | NA  | 0  | NA             | NA            | NA           | NA            | NA          | NA           |             |             |  |   |                                     |              |               |             |              |             |             |  |   |    |

| IPI acc. no. | Protein     | Kinase | highest Massot score | highest SSM | bosutinib                                |          |         |          |        |         |        |        |  |   | dasatinib                                |           |          |         |          |        |         |        |        |  | imatinib                                 |                                     |         |          |        |         |        |        |  |   |       |    |    |
|--------------|-------------|--------|----------------------|-------------|--|----------|---------|----------|--------|---------|--------|--------|--|---|--|-----------|----------|---------|----------|--------|---------|--------|--------|--|--|-------------------------------------|---------|----------|--------|---------|--------|--------|--|---|-------|----|----|
|              |             |        |                      |             | kinobonds binding relative to vehicle at |          |         |          |        |         |        |        |  |   | kinobonds binding relative to vehicle at |           |          |         |          |        |         |        |        |  | kinobonds binding relative to vehicle at |                                     |         |          |        |         |        |        |  |   |       |    |    |
|              |             |        |                      |             | 0.0001 uM                                | 0.001 uM | 0.01 uM | 0.033 uM | 0.1 uM | 0.33 uM | 1.0 uM | 5.0 uM | [cpd] causing 50% binding reduction (uM) | [cpd] at inflection point of curve (uM) | highest SSM used for quantification      | 0.0001 uM | 0.001 uM | 0.01 uM | 0.033 uM | 0.1 uM | 0.33 uM | 1.0 uM | 5.0 uM | [cpd] causing 50% binding reduction (uM) | [cpd] at inflection point of curve (uM)  | highest SSM used for quantification | 0.01 uM | 0.033 uM | 0.1 uM | 0.33 uM | 1.0 uM | 5.0 uM | [cpd] causing 50% binding reduction (uM) | [cpd] at inflection point of curve (uM) |       |    |    |
| IPI00010896  | CLIC1       |        | 210                  | 8           | 3  | NA       | NA      | 1.009    | 1.065  | 1.076   | 1.102  | 1.049  | 0.724                                    | >5                                      | NA                                       | 3         | NA       | 1.225   | 0.978    | 1.520  | 1.113   | 1.079  | 0.615  | >5                                       | NA                                       | 2                                   | 1.278   | 0.776    | 1.388  | 0.833   | 0.636  | 0.672  | >5                                       | NA                                      |       |    |    |
| IPI00028061  | CLK1        | CLK1   | 196                  | 24          | 4  | 0.803    | 0.818   | 0.825    | 0.818  | 0.544   | 0.849  | 0.516  | 0.791                                    | >5                                      | 0.047                                    | 7         | 0.895    | 1.126   | 0.911    | 0.738  | 1.536   | 0.854  | 0.661  | 0.525                                    | >5                                       | 0.341                               | 2       | 0.474    | 0.874  | 1.400   | 0.755  | 0.814  | 0.770                                    | >5                                      | NA    |    |    |
| IPI00030771  | CLK2        | CLK2   | 192                  | 3           | 1  | 0.932    | 0.798   | 0.734    | 0.756  | 0.734   | 0.741  | 0.734  | 0.671                                    | >5                                      | 0.102                                    | 1         | 0.932    | 0.871   | 0.915    | 0.815  | 0.815   | 0.736  | 0.712  | 0.584                                    | >5                                       | NA                                  | 1       | 2        | 0.944  | 0.874   | 1.400  | 0.755  | 0.814                                    | 0.770                                   | >5    | NA |    |
| IPI00021934  | CLK3        | CLK3   | 70                   | 4           | 1  | 0.820    | NA      | 1.202    | NA     | NA      | NA     | NA     | NA                                       | >5                                      | NA                                       | 0         | NA       | NA      | NA       | NA     | NA      | NA     | NA     | >5                                       | NA                                       | 0                                   | NA      | 0        | NA     | NA      | NA     | NA     | NA                                       | >5                                      | NA    |    |    |
| IPI00004839  | CKRL        |        | 327                  | 22          | 4  | 0.948    | 0.958   | 0.910    | 0.836  | 0.733   | 0.839  | 0.494  | 0.533                                    | >5                                      | 0.366                                    | 9         | 0.941    | 1.071   | 0.919    | 1.128  | 1.001   | 0.949  | 0.765  | 0.667                                    | >5                                       | NA                                  | 0       | 1.072    | 0.984  | 1.145   | 1.167  | 0.920  | 0.876                                    | >5                                      | NA    |    |    |
| IPI0019297   | CS          |        | 102                  | 16          | 0  | NA       | NA      | NA       | NA     | NA      | NA     | NA     | NA                                       | >5                                      | NA                                       | 1         | NA       | 1.192   | NA       | 1.474  | NA      | 0.747  | NA     | >5                                       | NA                                       | 1                                   | 1.538   | 0.859    | 1.173  | 1.403   | 0.782  | 0.904  | >5                                       | NA                                      |       |    |    |
| IPI0002446   | CSK         | CSK    | 2476                 | 68          | 22                                       | 1.132    | 1.091   | 1.031    | 0.740  | 0.681   | 0.715  | 0.671  | 0.170                                    | >5                                      | 0.120                                    | 1         | 1.132    | 1.185   | 1.081    | 0.808  | 1.020   | 0.852  | 0.802  | 0.582                                    | >5                                       | 0.038                               | 17      | 1.093    | 0.858  | 1.162   | 0.852  | 0.832  | 0.739                                    | >5                                      | NA    |    |    |
| IPI00004798  | CSNK1A1     | CK1a   | 966                  | 60          | 34                                       | 1.061    | 1.133   | 0.984    | 0.899  | 0.812   | 0.770  | 0.619  | 0.520                                    | >5                                      | 0.253                                    | 33        | 1.016    | 1.000   | 1.087    | 0.918  | 1.225   | 1.069  | 0.925  | 0.736                                    | >5                                       | NA                                  | 21      | 1.190    | 0.899  | 1.173   | 1.401  | 0.705  | 0.505                                    | 0.858                                   | >5    | NA |    |
| IPI00011102  | CSNK1D      | CK1d   | 576                  | 55          | 19                                       | 1.114    | 1.194   | 0.948    | 0.751  | 0.668   | 0.655  | 0.471  | 0.299                                    | 0.539                                   | 0.212                                    | 4         | 0.894    | 1.091   | 1.029    | 0.832  | 1.145   | 0.742  | 0.708  | 0.557                                    | >5                                       | 0.609                               | 16      | 1.04     | 0.907  | 1.145   | 1.061  | 0.914  | 0.830                                    | >5                                      | NA    |    |    |
| IPI00027229  | CSNK1E      | CK1e   | 678                  | 57          | 4  | 0.871    | 0.981   | 0.874    | 0.754  | 0.764   | 0.762  | 0.401  | 0.261                                    | 0.584                                   | 0.620                                    | 11        | 1.018    | 0.945   | 0.921    | 0.818  | 1.211   | 0.886  | 0.718  | 0.587                                    | >5                                       | 0.693                               | 14      | 1.082    | NA     | 1.027   | NA     | 0.575  | NA                                       | >5                                      | NA    |    |    |
| IPI00021947  | CSNK1G      | CK1g   | 576                  | 75          | 4  | 0.866    | 0.981   | 0.874    | 0.754  | 0.764   | 0.762  | 0.401  | 0.261                                    | 0.584                                   | 0.620                                    | 11        | 1.018    | 0.945   | 0.921    | 0.818  | 1.211   | 0.886  | 0.718  | 0.587                                    | >5                                       | 0.693                               | 14      | 1.082    | NA     | 1.027   | NA     | 0.575  | NA                                       | >5                                      | NA    |    |    |
| IPI00016613  | CSNK2A1     | CK2a1  | 591                  | 50          | 31                                       | 1.159    | 1.185   | 0.933    | 0.873  | 0.840   | 0.874  | 0.588  | 0.455                                    | >5                                      | 0.122                                    | 26        | 0.988    | 1.157   | 0.846    | 0.706  | 1.055   | 0.751  | 0.802  | 0.569                                    | >5                                       | 0.267                               | 21      | 1.214    | 0.992  | 1.196   | 1.096  | 0.831  | 0.732                                    | >5                                      | NA    |    |    |
| IPI00026062  | CSNK2A2     | CK2a2  | 1170                 | 105         | 19                                       | 1.051    | 0.999   | 0.986    | 0.883  | 0.800   | 0.717  | 0.371  | 0.600                                    | >5                                      | 0.091                                    | 50        | 0.971    | 1.211   | 0.934    | 0.707  | 1.029   | 0.961  | 0.894  | 0.740                                    | >5                                       | NA                                  | 28      | 1.301    | 1.099  | 1.228   | 1.070  | 0.838  | 0.846                                    | >5                                      | NA    |    |    |
| IPI00026062  | CSNK2A2     | CK2a2  | 1170                 | 105         | 19                                       | 1.051    | 0.999   | 0.986    | 0.883  | 0.800   | 0.717  | 0.371  | 0.600                                    | >5                                      | 0.091                                    | 50        | 0.971    | 1.211   | 0.934    | 0.707  | 1.029   | 0.961  | 0.894  | 0.740                                    | >5                                       | NA                                  | 28      | 1.301    | 1.099  | 1.228   | 1.070  | 0.838  | 0.846                                    | >5                                      | NA    |    |    |
| IPI00064231  | CYFIP1      | NA     | 136                  | 8           | 4  | 1.274    | 1.036   | 0.874    | NA     | NA      | NA     | NA     | NA                                       | >5                                      | NA                                       | 1         | 1.446    | 1.068   | 0.999    | NA     | NA      | NA     | 0.802  | 0.799                                    | >5                                       | NA                                  | 0       | 1        | NA     | NA      | NA     | NA     | 0.838                                    | >5                                      | NA    |    |    |
| IPI00020454  | CDK2        |        | 323                  | 22          | 10                                       | 0.897    | 0.950   | 0.948    | 0.928  | 0.888   | 0.770  | 0.574  | 0.761                                    | >5                                      | 0.285                                    | 9         | 0.751    | 0.840   | 0.992    | 1.020  | 1.226   | 1.101  | 0.942  | 0.815                                    | >5                                       | NA                                  | 0       | 6        | 0.897  | 0.955   | 1.349  | 1.117  | 0.760                                    | 0.882                                   | >5    | NA |    |
| IPI00001477  | DDR1        | DDR1   | 410                  | 34          | 12                                       | 0.758    | 0.837   | 0.868    | 0.785  | 0.760   | 0.764  | 0.409  | 0.431                                    | 2.292                                   | 0.981                                    | 5         | 0.823    | 0.652   | 0.564    | NA     | NA      | NA     | NA     | 0.002                                    | NA                                       | 3                                   | 0.689   | 0.831    | 0.625  | 0.518   | 0.373  | 0.344  | 0.298                                    | 0.112                                   | >5    | NA |    |
| IPI00026929  | DDX1        |        | 435                  | 61          | 8  | 1.351    | 1.370   | 1.041    | 0.760  | 0.660   | 0.750  | 0.520  | 0.520                                    | >5                                      | NA                                       | 3         | 1.123    | 0.942   | 0.865    | 0.760  | 0.940   | 0.849  | 0.594  | >5                                       | 0.530                                    | 6                                   | 1.000   | 0.851    | 1.342  | 1.051   | 0.897  | 0.714  | >5                                       | NA                                      |       |    |    |
| IPI000298547 | DJ-1        |        | 113                  | 6           | 1  | 0.631    | 0.407   | 1.209    | NA     | NA      | NA     | NA     | NA                                       | >5                                      | NA                                       | 3         | NA       | 0.888   | 1.055    | 1.103  | 0.972   | 0.760  | 0.590  | >5                                       | 0.845                                    | 2                                   | 0.757   | 0.729    | 0.972  | 1.351   | 0.713  | 0.868  | >5                                       | NA                                      |       |    |    |
| IPI00037883  | DFP68K16132 |        | 118                  | 12          | 1  | NA       | NA      | 1.039    | 0.967  | 0.893   | 0.557  | 0.429  | 0.480                                    | 0.870                                   | 0.132                                    | 1         | NA       | NA      | 1.168    | 1.168  | 1.021   | NA     | 0.531  | >5                                       | NA                                       | 2                                   | 0.929   | 0.649    | 1.386  | 0.774   | 1.026  | 0.642  | >5                                       | NA                                      |       |    |    |
| IPI00604707  | DLAT        |        | 819                  | 50          | 18                                       | 0.629    | 0.700   | 0.702    | 0.944  | 0.737   | 0.609  | 0.512  | 0.548                                    | >5                                      | 0.036                                    | 22        | 0.592    | 0.680   | 0.776    | 0.946  | 0.979   | 1.131  | 0.727  | 0.746                                    | >5                                       | 0.010                               | 23      | 1.100    | 0.899  | 1.089   | 0.967  | 0.905  | 0.848                                    | >5                                      | NA    |    |    |
| IPI00020390  | DNAJC10     |        | 238                  | 15          | 5  | 1.374    | 1.102   | 0.873    | 0.596  | 0.678   | 0.809  | 0.409  | 0.778                                    | >5                                      | 0.026                                    | 6         | 1.374    | 1.047   | 0.929    | 0.916  | 1.116   | 1.077  | 0.928  | 0.744                                    | >5                                       | NA                                  | 3       | 1.021    | 0.947  | 1.108   | 0.803  | 0.713  | >5                                       | NA                                      |       |    |    |
| IPI00012587  | DDK1        |        | 297                  | 19          | 1  | NA       | NA      | NA       | 0.390  | NA      | 0.476  | NA     | 0.445                                    | >5                                      | NA                                       | 0         | NA       | NA      | NA       | NA     | NA      | NA     | NA     | >5                                       | NA                                       | 2                                   | 1.499   | 1.663    | 1.024  | 1.799   | 0.991  | 1.336  | >5                                       | NA                                      |       |    |    |
| IPI00022602  | DOK2        |        | 798                  | 48          | 9  | 0.913    | 0.908   | 0.467    | 0.174  | 0.335   | 0.168  | 0.221  | 0.107                                    | 0.010                                   | 0.009                                    | 6         | 1.082    | 0.302   | 0.243    | 0.173  | 0.266   | 0.205  | 0.168  | 0.106                                    | 0.003                                    | 0.002                               | 16      | 0.746    | 0.650  | 0.971   | 0.751  | 0.517  | 0.321                                    | 1.476                                   | 2.353 | >5 | NA |
| IPI00019339  | DNL2L2      |        | 219                  | 27          | NA                                       | 0.904    | 0.975   | 0.964    | 0.807  | 0.750   | 0.750  | 0.750  | 0.750                                    | >5                                      | 0.358                                    | 1         | 0.904    | 0.975   | 0.964    | 0.807  | 0.750   | 0.750  | 0.750  | 0.750                                    | >5                                       | NA                                  | 7       | 0.869    | 0.975  | 0.964   | 0.807  | 0.750  | 0.750                                    | >5                                      | NA    |    |    |
| IPI00014344  | DYRK1A      | DYRK1A | 166                  | 21          | 4  | 1.106    | 1.013   | 0.874    | 0.828  | 0.808   | 0.782  | 0.645  | 0.616                                    | >5                                      | NA                                       | 4         | NA       | 0.767   | 0.927    | 1.074  | 1.096   | 0.755  | 0.715  | >5                                       | NA                                       | 0                                   | 6       | 1.209    | 1.111  | 1.122   | 1.087  | 0.799  | 0.919                                    | >5                                      | NA    |    |    |
| IPI00028587  | EDARADD     |        | 59                   | 4           | 0  | NA       | NA      | NA       | NA     | NA      | NA     | NA     | NA                                       | >5                                      | NA                                       | 1         | NA       | NA      | NA       | NA     | 1.229   | NA     | 0.413  | 2.168                                    | >5                                       | NA                                  | 0       | NA       | NA     | NA      | NA     | NA     | NA                                       | >5                                      | NA    |    |    |
| IPI00024724  | EEF1A       |        | 756                  | 72          | 25                                       | 0.953    | 0.706   | 1.065    | 0.590  | 0.800   | 0.784  | 0.633  | 0.670                                    | >5                                      | NA                                       | 31        | 1.118    | 1.237   | 0.968    | 1.061  | 0.954   | 1.045  | 0.736  | 0.651                                    | >5                                       | NA                                  | 16      | 1.044    | 0.886  | 0.968   | 0.923  | 0.831  | 0.819                                    | >5                                      | NA    |    |    |
| IPI00020357  | EEF2        |        | 53                   | 6           | 3  | 0.933    | 0.875   | NA       | NA     | NA      | NA     | NA     | NA                                       | >5                                      | NA                                       | 2         | 1.480    | NA      | NA       | NA     | NA      | NA     | NA     | 0.624                                    | >5                                       | NA                                  | 1       | 1.480    | NA     | NA      | NA     | NA     | NA                                       | 0.624                                   | >5    | NA |    |
| IPI00186290  | EF2         |        | 248                  | 25          | 5  | 0.912    | 0.921   | 0.686    | 0.778  | 1.225   | 0.836  | 0.867  | 0.460                                    | >5                                      | 0.2137                                   | 6         | 0.985    | 1.019   | 1.060    | 1.010  | 1.017   | 1.040  | 0.535  | >5                                       | 0.877                                    | 6                                   | 0.874   | 0.972    | 0.969  | 0.979   | 0.627  | 0.788  | >5                                       | NA                                      |       |    |    |
| IPI00041249  | EF2AK1      | HRI    | 130                  | 9           | 1  | 1.205    | 1.218   | 1.118    | 0.732  | 0.538   | 0.671  | 0.544  | 0.296                                    | >5                                      | 0.032                                    | 4         | 0.904    | 1.185   | 0.910    | 0.910  | 1.112   | 1.034  | 0.813  | 0.748                                    | >5                                       | NA                                  | 3       | 1.142    | 1.076  | 1.154   | 1.021  | 0.984  | 1.095                                    | >5                                      | NA    |    |    |
| IPI00033851  | EF2AK4      | GCN2   | 256                  | 24          | 4  | 0.853    | 0.953   | 0.728    | NA     | 0.997   | NA     | 0.878  | NA                                       | >5                                      | NA                                       | 8         | 0.838    | 0.881   | 0.790    | 0.842  | 0.977   | 0.956  | 0.710  | 0.693                                    | >5                                       | NA                                  | 6       | 1.090    | 0.728  | 1.224   | 0.671  | 0.980  | 0.603                                    | >5                                      | NA    |    |    |
| IPI00020351  | EF3B1       |        | 291                  | 26          | 1  | 1.039    | 0.989   | 1.042    | 0.889  | 0.650   | 0.671  | 0.671  | 0.671                                    | >5                                      | 0.032                                    | 4         | 1.039    | 0.989   | 1.042    | 0.889  | 0.650   | 0.671  | 0.671  | 0.671                                    | >5                                       | NA                                  | 1       | 1.039    | 0.989  | 1.042   | 0.889  | 0.650  | 0.671                                    | >5                                      | NA    |    |    |
| IPI00040977  | EF4A2       |        | 46                   | 4           | 0  | NA       | NA      | NA       | NA     | NA      | NA     | NA     | NA                                       | >5                                      | NA                                       | 1         | NA       | NA      | 0.844    | 1.058  | 0.999   | 1.382  | 0.645  | 0.828                                    | >5                                       | NA                                  | 0       | NA       | NA     | NA      | NA     | NA     | NA                                       | >5                                      | NA    |    |    |
| IPI00037605  | EF4A2       |        | 59                   | 3           | 1  | 1.746    | 1.483   | 1.750    | NA     | NA      | NA     | NA     | NA                                       | >5                                      | NA                                       | 0         | NA       | NA      | NA       | NA     | NA      | NA     | NA     | >5                                       | NA                                       | 0                                   | NA      | NA       | NA     | NA      | NA     | NA     | >5                                       | NA                                      |       |    |    |
| IPI00040448  | EFNA1       |        | 583                  | 33          | 3  | 1.253    | 1.011   | 0.920    | 0.716  | 0.720   | 0.750  | 0.750  | 0.750                                    | >5                                      | 0.032                                    | 4         | 1.253    | 1.011   | 0.920    | 0.716  | 0.720   | 0.750  | 0.750  | 0.750                                    | >5                                       | NA                                  | 1       | 1.253    | 1.011  | 0.920   | 0.716  | 0.720  | 0.750                                    | >5                                      | NA    |    |    |
| IPI00008318  | EPHA4       | EPHA4  | 87                   | 7           | 2  | 0.916    | 1.048   | 0.961    | NA     | NA      | NA     | NA     | NA                                       | >5                                      | NA                                       | 3         | 0.910    | 0.981   | 0.875    | NA     | NA      | NA     | NA     | >5                                       | NA                                       | 0                                   | NA      | 0        | NA     | NA      | NA     | NA     | >5                                       | NA                                      |       |    |    |
| IPI00008315  | EPHB1       | EPHB1  | 240                  | 27          | 1  | NA       | NA      | 0.588    | NA     | 0.349   | NA     | 0.253  | NA                                       | 0.046                                   | NA                                       | 3         | 1.363    | 1.253   | 1.376    | 1.376  | 0.855   | 0.958  | 0.730  | >5                                       | NA                                       | 0                                   | 3       | 1.363    | 1.253  | 1.376   | 0.855  | 0.958  | 0.730                                    | >5                                      | NA    |    |    |

| bosutinib    |              |        |                      |             |                                     |  |          |         |          |        |         |        |        |           |          |  | dasatinib                               |                                     |  |          |        |         |        |        |         |          |        |         |  |   |        |        |       | imatinib |       |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------|--------------|--------|----------------------|-------------|-------------------------------------|--|----------|---------|----------|--------|---------|--------|--------|-----------|----------|--|---|-------------------------------------|--|----------|--------|---------|--------|--------|---------|----------|--------|---------|--|---|--------|--------|-------|----------|-------|----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| IPI acc. no. | Protein      | Kinase | highest Mascot score | highest SSM | highest SSM used for quantification | kinobonds binding relative to vehicle at |          |         |          |        |         |        |        |           |          | [cpd] causing 50% binding reduction (uM) | [cpd] at inflection point of curve (uM) | highest SSM used for quantification | kinobonds binding relative to vehicle at |          |        |         |        |        |         |          |        |         | [cpd] causing 50% binding reduction (uM) | [cpd] at inflection point of curve (uM) |        |        |       |          |       |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|              |              |        |                      |             |                                     | 0.0001 uM                                | 0.001 uM | 0.01 uM | 0.033 uM | 0.1 uM | 0.33 uM | 1.0 uM | 5.0 uM | 0.0001 uM | 0.001 uM |  |   |                                     | 0.01 uM                                  | 0.033 uM | 0.1 uM | 0.33 uM | 1.0 uM | 5.0 uM | 0.01 uM | 0.033 uM | 0.1 uM | 0.33 uM |  |   | 1.0 uM | 5.0 uM |       |          |       |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00003384   | IFTM3        |        | 44                   | 1           | 0                                   | NA                                       | NA       | NA      | NA       | NA     | NA      | NA     | NA     | >5        | NA       | 0  | NA                                      | NA                                  | NA                                       | NA       | NA     | NA      | NA     | NA     | >5      | NA       | 1      | NA      | 1.249                                    | NA                                      | 1.379  | NA     | 1.081 | >5       | NA    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP000175647  | IFT80        |        | 149                  | 16          | 2                                   | 0.600                                    | 0.500    | 0.294   | 0.738    | NA     | 0.712   | NA     | 0.852  | >5        | 0.066    | 1  | NA                                      | NA                                  | NA                                       | NA       | 1.574  | NA      | 0.693  | >5     | NA      | 0        | NA     | NA      | NA                                       | NA                                      | NA     | NA     | >5    | NA       |       |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00029045   | IKBE         | IKBe   | 240                  | 24          | 0                                   | NA                                       | NA       | NA      | NA       | NA     | NA      | NA     | NA     | >5        | NA       | 1  | NA                                      | NA                                  | NA                                       | 1.164    | 1.313  | NA      | 0.744  | >5     | NA      | 2        | 1.758  | 1.000   | 1.270                                    | 0.900                                   | 0.959  | 0.569  | >5    | 1.787    |       |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00025644   | ILK          | ILK    | 110                  | 9           | 0                                   | NA                                       | NA       | NA      | NA       | NA     | NA      | NA     | NA     | >5        | NA       | 1  | NA                                      | NA                                  | NA                                       | 1.107    | NA     | 0.937   | NA     | 0.658  | >5      | NA       | 4      | 0.873   | 0.926                                    | 1.112                                   | 1.069  | 0.892  | 0.760 | >5       | NA    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00024970   | INCENP       |        | 157                  | 14          | 3                                   | NA                                       | NA       | NA      | NA       | 0.772  | NA      | 1.063  | NA     | 0.795     | >5       | NA                                       | 4                                       | NA                                  | NA                                       | 0.770    | 1.065  | 1.502   | 1.322  | 1.034  | 0.772   | >5       | NA     | 3       | NA                                       | 0.902                                   | NA     | 0.901  | NA    | 0.859    | >5    | NA |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00016932   | SHIP2        |        | 1604                 | 172         | 37                                  | 0.874                                    | 0.775    | 0.319   | 0.273    | 0.285  | 0.248   | 0.182  | 0.180  | 0.004     | 0.002    | 26                                       | 0.974                                   | 0.575                               | 0.369                                    | 0.229    | 0.347  | 0.284   | 0.272  | 0.209  | >5      | NA       | 34     | 0.928   | 0.691                                    | 0.871                                   | 0.555  | 0.424  | 0.354 | 0.713    | 0.281 |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00024970   | IP00000862.1 |        | 127                  | 7           | 0                                   | NA                                       | NA       | NA      | NA       | NA     | NA      | NA     | NA     | >5        | NA       | 0  | NA                                      | NA                                  | NA                                       | NA       | NA     | NA      | NA     | >5     | NA      | 6        | NA     | 1.430   | NA                                       | 1.747                                   | NA     | 0.944  | >5    | NA       |       |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00007402   | IPQ7         |        | 91                   | 7           | 3                                   | 0.906                                    | 0.927    | 0.966   | 1.136    | 0.785  | 1.122   | 0.616  | 0.723  | >5        | NA       | 2  | 1.065                                   | 1.040                               | 0.938                                    | NA       | 0.947  | NA      | 0.590  | NA     | >5      | 0.181    | 1      | 1.026   | 1.036                                    | 0.825                                   | 1.039  | 1.016  | 0.957 | >5       | NA    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00001453   | IPPK         |        | 50                   | 5           | 0                                   | NA                                       | NA       | NA      | NA       | NA     | NA      | NA     | NA     | >5        | NA       | 0  | NA                                      | NA                                  | NA                                       | NA       | NA     | NA      | NA     | >5     | NA      | 1        | 1.658  | NA      | 1.421                                    | NA                                      | 1.080  | NA     | >5    | NA       |       |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00014255   | IQCB1        |        | 56                   | 4           | 1                                   | NA                                       | NA       | NA      | 0.954    | NA     | 2.496   | NA     | 0.391  | 2.717     | NA       | 0  | NA                                      | NA                                  | NA                                       | NA       | NA     | NA      | NA     | >5     | NA      | 1        | 2.663  | NA      | 1.493                                    | NA                                      | 0.808  | NA     | >5    | NA       |       |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP000293652  | IRAK1        | IRAK1  | 228                  | 11          | 4                                   | 1.189                                    | 1.028    | 0.936   | 0.790    | 0.716  | 0.808   | 0.771  | 0.636  | >5        | NA       | 3  | 1.089                                   | 1.033                               | 0.852                                    | NA       | 1.009  | 1.328   | 0.773  | 0.565  | >5      | 0.955    | 3      | 1.041   | 0.852                                    | 1.194                                   | 1.329  | 0.906  | 0.944 | >5       | NA    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00030301   | ISOC2        |        | 252                  | 16          | 5                                   | 1.707                                    | 1.449    | 1.050   | 1.015    | 0.859  | 0.784   | 0.622  | 0.595  | >5        | 0.243    | 9  | 0.958                                   | 1.211                               | 0.980                                    | 0.784    | 1.190  | 1.055   | 0.849  | 0.633  | >5      | NA       | 6      | 1.051   | 1.004                                    | 1.211                                   | 1.145  | 0.804  | 0.836 | >5       | NA    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00011633   | JAK1         | JAK1   | 1769                 | 117         | 50                                  | 1.050                                    | 1.010    | 0.906   | 0.868    | 0.806  | 0.728   | 0.582  | 0.480  | 3.833     | 0.549    | 46                                       | 0.962                                   | 1.088                               | 0.911                                    | 0.887    | 0.946  | 0.925   | 0.870  | 0.559  | >5      | 0.753    | 44     | 1.204   | 0.993                                    | 1.089                                   | 0.991  | 0.810  | 0.724 | >5       | NA    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP000554711  | JUP          |        | 82                   | 6           | 0                                   | NA                                       | NA       | NA      | NA       | NA     | NA      | NA     | NA     | >5        | NA       | 2  | NA                                      | NA                                  | NA                                       | 0.563    | NA     | 1.072   | NA     | 0.558  | >5      | NA       | 0      | NA      | NA                                       | NA                                      | NA     | NA     | >5    | NA       |       |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00008575   | KHDRBS1      |        | 71                   | 6           | 0                                   | NA                                       | NA       | NA      | NA       | NA     | NA      | NA     | NA     | >5        | NA       | 2  | 0.833                                   | 0.746                               | 0.764                                    | 1.154    | NA     | 1.158   | NA     | 0.695  | >5      | NA       | 1      | 0.946   | NA                                       | 0.875                                   | NA     | 0.900  | NA    | >5       | NA    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00166708   | KHDRBS2      |        | 74                   | 8           | 1                                   | NA                                       | NA       | NA      | 0.851    | 0.561  | 0.923   | 0.738  | 0.683  | 0.660     | >5       | 0.353                                    | 1                                       | NA                                  | NA                                       | 1.150    | NA     | 1.500   | NA     | 1.012  | NA      | >5       | NA     | 1       | 0.954                                    | 0.917                                   | 0.882  | 1.102  | 1.044 | 1.016    | >5    | NA |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP000470786  | KHSRP        |        | 183                  | 10          | 4                                   | 0.846                                    | 0.956    | 0.896   | 0.822    | 0.830  | 0.895   | 0.657  | 0.861  | >5        | NA       | 4  | NA                                      | NA                                  | 0.516                                    | NA       | 1.120  | 1.385   | 0.697  | 0.676  | >5      | 0.009    | 3      | 1.022   | 0.939                                    | 0.918                                   | 0.987  | 0.859  | 0.782 | >5       | NA    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP000641384  | KIAA0310     |        | 456                  | 15          | 7                                   | 0.918                                    | 1.074    | 0.932   | 0.746    | 0.921  | 0.624   | 0.755  | 0.393  | 3.316     | 0.727    | 11                                       | 1.105                                   | 1.096                               | 0.993                                    | 0.864    | 0.963  | 1.054   | 0.788  | 0.682  | >5      | NA       | 6      | 0.806   | 0.910                                    | 1.222                                   | 1.066  | 0.836  | 0.799 | >5       | NA    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP000465142  | KIAA0528     |        | 597                  | 57          | 11                                  | 0.841                                    | 0.914    | 0.902   | 0.888    | 0.831  | 0.724   | 0.642  | 0.609  | >5        | NA       | 13                                       | 1.168                                   | 1.103                               | 1.126                                    | 0.904    | 1.116  | 1.061   | 0.779  | 0.691  | >5      | NA       | 11     | 1.040   | 0.857                                    | 1.153                                   | 0.953  | 0.801  | 0.780 | >5       | NA    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP000557720  | KIAA0999     | QSK    | 1042                 | 103         | 20                                  | 1.116                                    | 0.973    | 0.868   | 0.594    | 0.590  | 0.389   | 0.278  | 0.206  | 0.125     | 0.068    | 19                                       | 1.030                                   | 1.104                               | 0.948                                    | 0.738    | 0.695  | 0.691   | 0.381  | 0.432  | 0.772   | 0.075    | 22     | 1.211   | 0.984                                    | 1.115                                   | 0.947  | 0.810  | 0.760 | >5       | NA    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00022296   | KIT          | KIT    | 994                  | 3           | 26                                  | 0.820                                    | 0.863    | 0.895   | 0.846    | 0.836  | 0.848   | 0.706  | 0.647  | >5        | NA       | 9  | 0.869                                   | 0.954                               | 0.805                                    | 0.723    | 0.369  | 0.280   | 0.235  | 0.188  | 0.015   | 0.011    | 20     | 1.150   | 0.947                                    | 1.090                                   | 0.840  | 0.573  | 0.413 | 1.461    | 0.507 |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00001639   | KPNB1        |        | 114                  | 9           | 1                                   | 2.988                                    | 2.564    | 2.283   | NA       | NA     | NA      | NA     | NA     | >5        | NA       | 3  | NA                                      | NA                                  | 0.983                                    | 0.894    | 0.981  | 1.185   | 0.619  | 0.633  | >5      | NA       | 0      | NA      | NA                                       | NA                                      | NA     | NA     | >5    | NA       |       |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00010471   | LCP1         |        | 87                   | 6           | 1                                   | NA                                       | NA       | NA      | NA       | 0.699  | NA      | 0.686  | NA     | 0.719     | >5       | NA                                       | 2                                       | NA                                  | NA                                       | 1.141    | 1.258  | 1.268   | 1.360  | 0.839  | 0.688   | >5       | NA     | 0       | NA                                       | NA                                      | NA     | NA     | NA    | >5       | NA    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP000217996  | LDHA         |        | 238                  | 17          | 3                                   | 0.940                                    | 1.064    | 1.226   | 0.344    | 1.072  | 0.628   | 0.786  | 0.683  | >5        | 0.017    | 4  | 1.489                                   | 1.600                               | 1.439                                    | NA       | 1.582  | 1.262   | 1.017  | 0.588  | >5      | 0.330    | 3      | 0.914   | 1.111                                    | 1.095                                   | 0.819  | 0.731  | 0.864 | >5       | NA    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP000210217  | LDB          |        | 168                  | 8           | 1                                   | NA                                       | NA       | NA      | NA       | NA     | NA      | NA     | NA     | >5        | NA       | 1  | NA                                      | NA                                  | 0.78                                     | NA       | 1.137  | 0.881   | NA     | 0.717  | 0.665   | >5       | NA     | 1       | 1.357                                    | 0.947                                   | 1.134  | 0.936  | >5    | NA       |       |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP000554498  | LDHC         |        | 96                   | 5           | 0                                   | NA                                       | NA       | NA      | NA       | NA     | NA      | NA     | NA     | >5        | NA       | 1  | NA                                      | NA                                  | NA                                       | 0.871    | NA     | 0.990   | NA     | 0.874  | >5      | NA       | 0      | NA      | NA                                       | NA                                      | NA     | NA     | >5    | NA       |       |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00023673   | LGALS3BP     |        | 57                   | 6           | 2                                   | 0.892                                    | 1.102    | 0.785   | 0.504    | 0.558  | 0.787   | 0.347  | 0.475  | >5        | 0.010    | 2  | NA                                      | NA                                  | 1.199                                    | 0.752    | 1.503  | 1.113   | 1.077  | 0.671  | >5      | NA       | 2      | NA      | 0.809                                    | NA                                      | 1.028  | NA     | 0.831 | >5       | NA    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00017223   | LGALS7       |        | 151                  | 16          | 0                                   | NA                                       | NA       | NA      | NA       | NA     | NA      | NA     | NA     | >5        | NA       | 0  | NA                                      | NA                                  | NA                                       | NA       | NA     | NA      | NA     | >5     | NA      | 10       | 1.171  | 1.234   | 1.399                                    | 1.554                                   | 1.236  | 0.786  | >5    | NA       |       |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP000291702  | LIMK1        | LIMK1  | 540                  | 27          | 0                                   | 0.950                                    | 0.988    | 0.986   | 0.933    | 0.802  | 0.730   | 0.677  | 0.608  | >5        | NA       | 7  | 0.962                                   | 0.968                               | 0.914                                    | 0.802    | 0.914  | 0.869   | 0.874  | 0.466  | >5      | 0.466    | 9      | 1.093   | 0.947                                    | 1.269                                   | 1.082  | 0.914  | 0.814 | >5       | NA    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00022872   | LIMK2        | LIMK2  | 588                  | 44          | 14                                  | 0.968                                    | 0.989    | 0.957   | 0.876    | 0.790  | 0.768   | 0.619  | 0.668  | >5        | NA       | 12                                       | 1.040                                   | 0.959                               | 1.037                                    | 0.966    | 1.125  | 0.875   | 0.670  | 0.411  | 2.044   | 0.840    | 12     | 1.085   | 1.062                                    | 1.013                                   | 1.057  | 0.887  | 0.947 | >5       | NA    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00021405   | LMNA         |        | 276                  | 22          | 0                                   | NA                                       | NA       | NA      | NA       | NA     | NA      | NA     | NA     | >5        | NA       | 6  | NA                                      | NA                                  | 1.197                                    | 1.215    | 1.572  | 1.698   | 0.615  | 0.902  | >5      | NA       | 4      | 1.888   | NA                                       | 1.399                                   | NA     | 1.258  | NA    | >5       | NA    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP00025746   | LOC129138    |        | 149                  | 14          | 1                                   | NA                                       | NA       | NA      | 0.946    | NA     | 0.685   | NA     | 0.434  | NA        | 0.207    | NA                                       | 0                                       | NA                                  | NA                                       | NA       | NA     | NA      | NA     | >5     | NA      | 4        | 1.207  | 0.933   | 1.294                                    | 1.029                                   | 0.949  | 0.880  | >5    | NA       |       |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP000383046  | LOC34147     |        | 265                  | 16          | 2                                   | NA                                       | NA       | NA      | 0.871    | NA     | 1.154   | 0.315  | 0.70   | 0.105     | 0.636    | 2  | NA                                      | NA                                  | 0.871                                    | NA       | 1.284  | NA      | 1.105  | NA     | >5      | NA       | 0      | NA      | NA                                       | NA                                      | NA     | NA     | >5    | NA       |       |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP000218084  | LOC143244    |        | 45                   | 2           | 1                                   | NA                                       | NA       | NA      | 3.053    | NA     | 2.899   | NA     | 2.246  | NA        | >5       | NA                                       | 0                                       | NA                                  | NA                                       | NA       | NA     | NA      | NA     | >5     | NA      | 0        | NA     | NA      | NA                                       | NA                                      | NA     | NA     | >5    | NA       |       |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP000554749  | LOC149329    |        | 214                  | 16          | 1                                   | NA                                       | NA       | NA      | 1.176    | NA     | 0.729   | NA     | 0.305  | NA        | 0.153    | NA                                       | 6                                       | NA                                  | NA                                       | NA       | NA     | 0.685   | NA     | 0.422  | 1.751   | NA       | 4      | 0.915   | 1.071                                    | 1.089                                   | 0.774  | 0.748  | 0.927 | >5       | NA    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IP000023966  | LOC342897    |        | 52                   | 2           | 0                                   | NA                                       | NA       | NA      | NA       | NA     | NA      | NA     | NA     | >5        | NA       | 0  | NA                                      | NA                                  | NA                                       | NA       | NA     | NA      | NA     | >5     | NA      | 1        | NA     | 2.1.    |  |   |        |        |       |          |       |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

| bosutinib    |         |         |                      |                                     |  |          |         |          |        | dasatinib |        |        |           |          |  |  |                                     |  |         | imatinib |        |           |          |         |          |        |         |  |  |           |          |         |          |        |         |
|--------------|---------|---------|----------------------|-------------------------------------|--|----------|---------|----------|--------|-----------|--------|--------|-----------|----------|--|--|-------------------------------------|--|---------|----------|--------|-----------|----------|---------|----------|--------|---------|--|--|-----------|----------|---------|----------|--------|---------|
| IPI acc. no. | Protein | Kinase  | highest Mascot score | highest SSM used for quantification | kinobeads binding relative to vehicle at |          |         |          |        |           |        |        |           |          | [cpd] causing 50% binding reduction (uM) | [cpd] at infection point of curve (uM) | highest SSM used for quantification | kinobeads binding relative to vehicle at |         |          |        |           |          |         |          |        |         | [cpd] causing 50% binding reduction (uM) | [cpd] at infection point of curve (uM) |           |          |         |          |        |         |
|              |         |         |                      |                                     | 0.0001 uM                                | 0.001 uM | 0.01 uM | 0.033 uM | 0.1 uM | 0.33 uM   | 1.0 uM | 5.0 uM | 0.0001 uM | 0.001 uM | 0.01 uM                                  | 0.033 uM                               |                                     | 0.1 uM                                   | 0.33 uM | 1.0 uM   | 5.0 uM | 0.0001 uM | 0.001 uM | 0.01 uM | 0.033 uM | 0.1 uM | 0.33 uM | 1.0 uM                                   | 5.0 uM                                 | 0.0001 uM | 0.001 uM | 0.01 uM | 0.033 uM | 0.1 uM | 0.33 uM |
| IP00449049   | PARP1   |         | 81                   | 6                                   | 0  | NA       | NA      | NA       | NA     | NA        | NA     | NA     | NA        | >5       | NA                                       | 1                                      | NA                                  | NA                                       | NA      | 0.081    | NA     | 1.552     | NA       | 1.499   | >5       | NA     | 0       | NA                                       | NA                                     | NA        | NA       | NA      | NA       | >5     | NA      |
| IP00553006   | PARS2   |         | 49                   | 4                                   | 0  | NA       | NA      | 1.155    | NA     | 1.003     | NA     | 1.600  | NA        | >5       | NA                                       | 1                                      | NA                                  | NA                                       | NA      | 0.541    | NA     | 0.722     | NA       | 0.283   | 1.841    | NA     | 0       | NA                                       | NA                                     | NA        | NA       | NA      | NA       | >5     | NA      |
| IP00016610   | PCBP1   |         | 240                  | 14                                  | 6  | 1.052    | 1.144   | 1.065    | 0.790  | 0.954     | 0.794  | 0.626  | 0.678     | >5       | NA                                       | 6                                      | 1.008                               | 1.055                                    | 1.002   | 0.775    | 1.113  | 0.911     | 0.596    | >5      | 1.965    | 5      | 0.968   | 0.949                                    | 1.222                                  | 1.118     | 0.786    | 0.868   | >5       | NA     |         |
| IP00216689   | PCBP2   |         | 86                   | 5                                   | 1  | NA       | NA      | NA       | 0.548  | NA        | 0.504  | NA     | 0.539     | >5       | NA                                       | 1                                      | 0.965                               | 1.049                                    | 0.930   | 0.814    | 0.913  | 1.132     | 0.609    | 1.110   | >5       | NA     | 2       | 0.820                                    | NA                                     | 0.693     | NA       | 0.703   | NA       | >5     | NA      |
| IP00030690   | PCDB    |         | 69                   | 7                                   | 1  | 0.926    | 1.049   | NA       | NA     | NA        | NA     | NA     | >5        | NA       | 1  | 0.965                                  | 1.040                               | 0.930                                    | 0.814   | 0.913    | 1.132  | 0.609     | 1.110    | >5      | NA       | 1      | 0.747   | 0.991                                    | 1.363                                  | 0.891     | 0.540    | 0.884   | >5       | 1.386  |         |
| IP00306301   | PDHA1   |         | 38                   | 6                                   | 3  | 0.701    | 0.665   | 0.646    | NA     | NA        | NA     | NA     | NA        | >5       | NA                                       | 0                                      | NA                                  | NA                                       | NA      | NA       | NA     | NA        | NA       | >5      | NA       | 0      | NA      | NA                                       | NA                                     | NA        | NA       | NA      | >5       | NA     |         |
| IP00003925   | PDHB    |         | 78                   | 3                                   | 1  | 0.633    | 0.924   | 0.596    | NA     | NA        | NA     | NA     | NA        | >5       | NA                                       | 2                                      | 0.373                               | 0.564                                    | 0.439   | NA       | NA     | NA        | NA       | >5      | NA       | 0      | NA      | NA                                       | NA                                     | NA        | NA       | NA      | >5       | NA     |         |
| IP00298423   | PDK1    |         | 177                  | 6                                   | 3  | 0.447    | 0.604   | 0.535    | NA     | NA        | NA     | NA     | NA        | >5       | NA                                       | 3                                      | 0.427                               | 0.586                                    | 0.583   | NA       | NA     | NA        | NA       | >5      | NA       | 2      | 0.999   | 0.954                                    | 1.239                                  | 1.174     | 1.109    | 0.978   | >5       | NA     |         |
| IP00298771   | PDH4    |         | 71                   | 3                                   | 1  | NA       | NA      | NA       | 1.132  | NA        | 1.316  | NA     | 0.748     | >5       | NA                                       | 0                                      | NA                                  | NA                                       | NA      | NA       | NA     | NA        | NA       | >5      | NA       | 0      | NA      | NA                                       | NA                                     | NA        | NA       | NA      | >5       | NA     |         |
| IP00002538   | PDPK1   | PKD1    | 713                  | 50                                  | 14                                       | 0.982    | 1.010   | 0.916    | 0.756  | 0.793     | 0.690  | 0.658  | 0.622     | >5       | NA                                       | 15                                     | 1.143                               | 1.146                                    | 1.015   | 0.861    | 0.929  | 0.975     | 0.708    | 0.677   | >5       | NA     | 14      | 0.926                                    | 0.930                                  | 1.230     | 1.048    | 0.818   | 0.883    | >5     | NA      |
| IP00182326   | PEF1    |         | 107                  | 1                                   | 1  | 0.740    | 0.896   | 1.109    | NA     | NA        | NA     | NA     | NA        | >5       | NA                                       | 2                                      | 0.759                               | 0.959                                    | 0.902   | NA       | NA     | NA        | NA       | >5      | NA       | 0      | NA      | NA                                       | NA                                     | NA        | NA       | NA      | >5       | NA     |         |
| IP00216891   | PFN1    |         | 162                  | 6                                   | 0  | NA       | NA      | NA       | NA     | NA        | NA     | NA     | NA        | >5       | NA                                       | 1                                      | 2.471                               | 2.899                                    | 3.298   | NA       | NA     | NA        | NA       | >5      | NA       | 2      | 0.917   | NA                                       | 0.840                                  | NA        | 0.649    | NA      | >5       | NA     |         |
| IP00161883   | PKC1    |         | 134                  | 12                                  | 2  | NA       | NA      | NA       | 0.782  | NA        | 0.988  | NA     | 0.558     | >5       | NA                                       | 3                                      | 0.743                               | 0.877                                    | 1.110   | 1.009    | 1.247  | 1.077     | 0.781    | 0.754   | >5       | NA     | 3       | 1.127                                    | 0.919                                  | 1.056     | 0.900    | 0.826   | 0.721    | >5     | NA      |
| IP00017334   | PHB     |         | 210                  | 9                                   | 3  | 0.924    | 0.912   | 0.861    | 0.765  | NA        | 0.852  | NA     | 0.596     | >5       | 0.549                                    | 4                                      | 0.732                               | 0.867                                    | 0.910   | 0.937    | 1.182  | 0.999     | 0.740    | 0.898   | >5       | NA     | 3       | 1.264                                    | 1.482                                  | 1.194     | 1.534    | 1.020   | 1.174    | >5     | NA      |
| IP00027252   | PHB2    |         | 244                  | 16                                  | 6  | 0.749    | 0.763   | 0.843    | 0.747  | 0.767     | 0.746  | 0.788  | 0.769     | >5       | NA                                       | 6                                      | 0.676                               | 0.760                                    | 0.848   | 0.890    | 1.058  | 1.031     | 0.839    | 0.841   | >5       | NA     | 4       | 1.129                                    | 0.861                                  | 1.096     | 0.995    | 1.060   | 0.842    | >5     | NA      |
| IP00012001   | PHGDH   |         | 138                  | 12                                  | 2  | NA       | NA      | NA       | 0.973  | 1.056     | 0.488  | 0.895  | 0.704     | 0.751    | >5                                       | NA                                     | 4                                   | 0.976                                    | 0.935   | 0.986    | 1.002  | 0.858     | 1.018    | 0.686   | 0.719    | >5     | NA      | 0  | NA                                     | NA        | NA       | NA      | NA       | >5     | NA      |
| IP00202056   | PIK3C2b | PIK3C2b | 78                   | 12                                  | 0  | NA       | NA      | NA       | NA     | NA        | NA     | NA     | NA        | >5       | NA                                       | 0                                      | NA                                  | NA                                       | NA      | NA       | NA     | NA        | NA       | >5      | NA       | 1      | NA      | 0.764                                    | NA                                     | 0.746     | NA       | 0.569   | >5       | NA     |         |
| IP00009688   | PIPSK2A | PIPSK2A | 101                  | 7                                   | 1  | 0.631    | 0.878   | 1.136    | 0.586  | 0.807     | 0.634  | 0.717  | 0.676     | >5       | NA                                       | 2                                      | 0.966                               | 1.157                                    | 1.104   | 0.686    | 0.999  | 0.828     | 0.726    | 0.669   | >5       | NA     | 1       | 1.163                                    | 1.139                                  | 0.916     | 0.956    | 0.822   | 0.468    | 4.187  | 1.999   |
| IP00216470   | PIPSK2B | PIPSK2B | 44                   | 4                                   | 0  | NA       | NA      | NA       | NA     | NA        | NA     | NA     | NA        | >5       | NA                                       | 1                                      | 0.781                               | 1.284                                    | 1.022   | NA       | 1.329  | NA        | 0.857    | NA      | >5       | NA     | 1       | 1.074                                    | 1.721                                  | 0.942     | 1.022    | 0.648   | 1.061    | >5     | NA      |
| IP00152303   | PIPSK2C | PIPSK2C | 169                  | 6                                   | 5  | 0.847    | 0.707   | 0.937    | 0.734  | 1.114     | 0.696  | 0.625  | 0.404     | 2.635    | 0.990                                    | 4                                      | 1.010                               | 1.089                                    | 1.287   | NA       | 0.884  | NA        | 0.705    | NA      | >5       | NA     | 1       | 0.836                                    | NA                                     | 0.870     | NA       | 0.364   | NA       | 0.586  | NA      |
| IP00222644   | PKM2    |         | 170                  | 8                                   | 2  | 0.895    | 1.177   | 0.887    | 0.580  | 0.734     | 0.827  | 0.447  | 0.329     | 1.048    | 0.430                                    | 4                                      | 1.306                               | 1.646                                    | 1.368   | 1.181    | 1.520  | 1.092     | 0.851    | 0.640   | >5       | NA     | 5       | 1.043                                    | 0.944                                  | 1.014     | 1.011    | 0.747   | 0.796    | >5     | NA      |
| IP00384765   | PKMYT1  | MYT1    | 866                  | 71                                  | 32                                       | 1.026    | 0.957   | 0.945    | 0.722  | 0.646     | 0.489  | 0.380  | 0.255     | 0.297    | 0.131                                    | 32                                     | 0.958                               | 1.067                                    | 0.966   | 0.972    | 0.934  | 0.755     | 0.583    | 0.342   | 1.489    | 0.746  | 24      | 1.162                                    | 0.937                                  | 1.065     | 0.999    | 0.755   | 0.768    | >5     | NA      |
| IP00412672   | PKN1    | PKN1    | 179                  | 17                                  | 3  | NA       | NA      | 0.808    | 0.914  | 0.805     | 0.888  | 0.577  | 0.554     | >5       | 2.937                                    | 3                                      | NA                                  | 0.760                                    | 1.259   | 0.935    | 1.143  | 0.651     | 0.599    | >5      | 0.771    | 3      | 1.430   | 1.243                                    | 1.267                                  | 0.967     | 0.946    | 0.913   | >5       | NA     |         |
| IP00413780   | PKN3    | PKN3    | 149                  | 20                                  | 3  | 1.031    | 0.933   | 0.877    | 0.647  | 1.061     | 0.731  | 0.650  | 0.542     | >5       | 0.516                                    | 3                                      | 0.857                               | 0.894                                    | 0.852   | 0.726    | 0.625  | 0.997     | 0.589    | 0.596   | >5       | 0.168  | 0       | NA                                       | NA                                     | NA        | NA       | NA      | >5       | NA     |         |
| IP00413344   | PLK4    |         | 246                  | 12                                  | 1  | 1.235    | 0.818   | 0.599    | 0.891  | 0.623     | 0.687  | 0.688  | NA        | >5       | NA                                       | 4                                      | 0.781                               | 1.186                                    | 0.994   | 0.904    | 1.168  | 1.190     | 0.927    | 0.691   | >5       | NA     | 3       | 0.723                                    | 1.326                                  | 0.985     | 1.222    | 0.841   | 0.958    | >5     | NA      |
| IP00028829   | PLS3    |         | 48                   | 4                                   | 0  | NA       | NA      | NA       | NA     | NA        | NA     | NA     | NA        | >5       | NA                                       | 0                                      | NA                                  | NA                                       | NA      | NA       | NA     | NA        | NA       | >5      | NA       | 1      | 1.275   | 0.838                                    | 1.260                                  | 1.094     | 0.822    | 0.737   | >5       | NA     |         |
| IP00455547   | POTE2   |         | 403                  | 22                                  | 2  | 1.058    | 1.099   | 1.038    | NA     | NA        | NA     | NA     | NA        | >5       | NA                                       | 2                                      | 1.638                               | 2.379                                    | 1.622   | NA       | NA     | NA        | NA       | >5      | NA       | 0      | NA      | NA                                       | NA                                     | NA        | NA       | NA      | >5       | NA     |         |
| IP00480133   | PPIA    |         | 358                  | 23                                  | 7  | 1.234    | 1.314   | 1.150    | 0.938  | 0.892     | 1.039  | 0.802  | 0.744     | >5       | NA                                       | 9                                      | 1.353                               | 1.804                                    | 1.623   | 1.161    | 1.196  | 1.512     | 0.925    | 0.690   | >5       | NA     | 12      | 1.142                                    | 0.889                                  | 0.922     | 0.860    | 0.862   | 0.698    | >5     | NA      |
| IP00008381   | PRK1A   |         | 131                  | 6                                   | 1  | 0.941    | 1.091   | 0.881    | NA     | 0.819     | NA     | 0.468  | NA        | 0.892    | 0.262                                    | 4                                      | 0.864                               | 1.169                                    | 0.804   | 0.702    | 0.809  | 1.154     | 0.555    | 0.557   | >5       | 0.371  | 3       | 0.855                                    | 0.867                                  | 0.955     | 1.028    | 0.627   | 0.759    | >5     | NA      |
| IP00419307   | PP2R2A  |         | 233                  | 16                                  | 5  | 1.043    | 1.045   | 0.837    | 0.730  | 0.769     | 0.784  | 0.666  | 0.478     | >5       | 0.647                                    | 5                                      | 1.299                               | 1.152                                    | 0.835   | 0.940    | 0.844  | 0.882     | 0.572    | 0.555   | >5       | 0.399  | 3       | 1.024                                    | 0.711                                  | 1.029     | 0.878    | 0.771   | 0.622    | >5     | NA      |
| IP00332511   | PP2R2A  |         | 128                  | 5                                   | 3  | 1.104    | 1.054   | 1.138    | 0.737  | 1.110     | 0.811  | 0.832  | 0.522     | >5       | 0.839                                    | 4                                      | 1.391                               | 1.449                                    | 1.076   | 1.111    | NA     | 1.101     | NA       | 0.699   | >5       | NA     | 0       | NA                                       | NA                                     | NA        | NA       | NA      | NA       | >5     | NA      |
| IP00184845   | PP2R2D  |         | 116                  | 11                                  | 3  | 1.076    | 0.945   | 0.885    | NA     | 0.692     | NA     | 0.433  | NA        | 0.559    | 0.186                                    | 0                                      | NA                                  | NA                                       | NA      | NA       | NA     | NA        | NA       | >5      | NA       | 0      | NA      | NA                                       | NA                                     | NA        | NA       | NA      | >5       | NA     |         |
| IP00000874   | PRDX1   |         | 683                  | 38                                  | 26                                       | 0.924    | 1.148   | 1.065    | 0.915  | 0.917     | 0.733  | 0.646  | 0.563     | >5       | NA                                       | 7                                      | 0.924                               | 1.152                                    | 1.173   | 0.979    | 1.328  | 1.236     | 0.890    | 0.654   | >5       | NA     | 8       | 1.075                                    | 1.116                                  | 1.086     | 1.056    | 0.847   | 0.855    | >5     | NA      |
| IP00001937   | PRDX4   |         | 195                  | 12                                  | 3  | 1.408    | 1.249   | 1.381    | 0.888  | 1.225     | 0.768  | 0.734  | 0.681     | >5       | NA                                       | 7                                      | 0.861                               | 1.016                                    | 1.246   | 1.152    | 1.038  | 1.010     | 0.764    | 0.603   | >5       | NA     | 8       | 1.010                                    | 1.008                                  | 1.180     |          |         |          |        |         |



|              |         | bosutinib |                      |             |                                     |  |          |         |          |        |         | dasatinib |        |  |   |                                     |  |          |         |          |        | imatinib |        |        |  |   |           |          |         |          |        |         |        |        |       |    |
|--------------|---------|-----------|----------------------|-------------|-------------------------------------|--|----------|---------|----------|--------|---------|-----------|--------|--|---|-------------------------------------|--|----------|---------|----------|--------|----------|--------|--------|--|---|-----------|----------|---------|----------|--------|---------|--------|--------|-------|----|
| IPI acc. no. | Protein | Kinase    | highest Mafcoz score | highest SSM | highest SSM used for quantification | kinobeats binding relative to vehicle at |          |         |          |        |         |           |        | [cpd] causing 50% binding reduction (uM) | [cpd] at inflection point of curve (uM) | highest SSM used for quantification | kinobeats binding relative to vehicle at |          |         |          |        |          |        |        | [cpd] causing 50% binding reduction (uM) | [cpd] at inflection point of curve (uM) |           |          |         |          |        |         |        |        |       |    |
|              |         |           |                      |             |                                     | 0.0001 uM                                | 0.001 uM | 0.01 uM | 0.033 uM | 0.1 uM | 0.33 uM | 1.0 uM    | 5.0 uM |  |   |                                     | 0.0001 uM                                | 0.001 uM | 0.01 uM | 0.033 uM | 0.1 uM | 0.33 uM  | 1.0 uM | 5.0 uM |  |   | 0.0001 uM | 0.001 uM | 0.01 uM | 0.033 uM | 0.1 uM | 0.33 uM | 1.0 uM | 5.0 uM |       |    |
| IP00021222   | SUB1    |           | 141                  | 8           | 3                                   | 1.176                                    | 0.923    | 1.156   | 0.300    | 0.462  | 0.696   | 0.424     | 0.500  | 0.022                                    | 0.018                                   | 2                                   | 1.051                                    | 0.999    | 0.738   | 1.309    | 0.629  | 0.532    | 0.690  | >5     | NA                                       | 3                                       | 0.808     | 0.668    | 0.682   | 0.612    | 0.668  | 0.424   | >5     | NA     | 0.416 |    |
| IP00029166   | SURF4   |           | 192                  | 8           | 3                                   | 1.192                                    | 1.063    | 0.894   | NA       | 0.786  | NA      | 0.401     | NA     | 0.063                                    | 0.181                                   | 4                                   | 1.072                                    | 1.260    | 1.303   | NA       | NA     | 0.502    | NA     | 0.406  | 0.331                                    | 0.191                                   | 0         | NA       | NA      | NA       | NA     | NA      | NA     | NA     | NA    |    |
| IP00018597   | SYK     | SYK       | 1012                 | 78          | 20                                  | 0.857                                    | 1.020    | 0.644   | 0.333    | 0.323  | 0.239   | 0.195     | 0.167  | 0.017                                    | 0.013                                   | 17                                  | 1.105                                    | 0.835    | 0.530   | 0.303    | 0.377  | 0.290    | 0.276  | 0.185  | 0.011                                    | 0.005                                   | 25        | 0.952    | 0.883   | 1.104    | 1.070  | 0.760   | 0.755  | >5     | NA    |    |
| IP00029166   | TANK    |           | 160                  | 21          | 14                                  | 1.048                                    | 0.733    | 0.970   | 0.848    | 0.835  | 0.752   | 0.523     | 0.392  | 0.140                                    | 0.736                                   | 23                                  | 1.032                                    | 1.137    | 1.213   | 0.960    | 0.986  | 0.994    | 0.760  | 0.722  | >5                                       | NA                                      | 21        | 0.911    | 0.871   | 0.962    | 1.012  | 0.825   | 0.835  | >5     | NA    |    |
| IP00000233   | TAO1    | TAO1      | 174                  | 184         | 1                                   | 1  | 0.865    | 0.808   | NA       | 0.484  | 0.886   | 0.712     | 0.476  | NA                                       | 1.033                                   | NA                                  | 1.033                                    | NA       | NA      | NA       | 1.01   | NA       | NA     | NA     | NA                                       | NA                                      | 1         | 0.843    | 0.843   | 0.843    | 0.846  | NA      | NA     | NA     | NA    |    |
| IP00046518   | TAO2    | TAO2      | 243                  | 20          | 6                                   | 1.055                                    | 1.017    | 1.04    | NA       | NA     | NA      | NA        | NA     | 0.265                                    | 0.100                                   | 5                                   | 1.073                                    | 1.145    | 0.870   | 1.008    | 0.835  | 0.35     | 0.615  | 0.687  | >5                                       | NA                                      | 3         | 1.216    | 1.156   | 1.070    | 1.220  | 0.945   | 0.927  | >5     | NA    |    |
| IP00014085   | TAO3    | TAO3      | 244                  | 23          | 6                                   | 0.987                                    | 0.921    | 0.862   | 0.904    | 0.911  | 0.716   | 0.725     | 0.731  | >5                                       | NA                                      | 5                                   | 0.908                                    | 1.017    | 0.984   | 0.814    | 0.823  | 1.342    | 0.920  | 0.597  | >5                                       | 0.656                                   | 2         | 1.580    | 1.486   | 1.243    | 1.228  | 1.175   | 0.655  | >5     | NA    |    |
| IP00029631   | TBK1    | TBK1      | 320                  | 380         | 179                                 | 1.096                                    | 1.030    | 0.932   | 0.830    | 0.770  | 0.683   | 0.498     | 0.311  | 0.109                                    | 0.695                                   | 202                                 | 1.114                                    | 1.082    | 0.936   | 0.981    | 0.981  | 0.782    | 0.677  | >5     | NA                                       | 144                                     | 1.094     | 1.008    | 1.122   | 1.004    | 0.855  | 0.812   | >5     | NA     |       |    |
| IP00000364   | TGFBP1  | TGFBP1    | 857                  | 857         | 857                                 | 1.070                                    | 0.919    | 0.891   | 0.840    | 0.756  | 0.652   | 0.510     | 0.350  | 0.177                                    | 0.939                                   | 22                                  | 1.128                                    | 1.055    | 1.074   | 1.003    | 1.056  | 0.744    | 0.595  | 0.430  | 0.105                                    | NA                                      | 1         | 1.052    | 0.835   | 0.935    | 1.004  | 0.744   | 0.719  | >5     | NA    |    |
| IP00000364   | TGFB2   | TGFB2     | 2570                 | 242         | 1327                                | 0.988                                    | 0.945    | 0.704   | 0.572    | 0.533  | 0.474   | 0.383     | 0.254  | 0.121                                    | 0.013                                   | 75                                  | 1.035                                    | 0.960    | 0.558   | 0.458    | 0.390  | 0.235    | 0.206  | 0.131  | 0.024                                    | 0.014                                   | 16        | 0.926    | 0.880   | 0.990    | 0.942  | 0.700   | 0.660  | >5     | NA    |    |
| IP00018181   | TESK1   | TESK1     | 39                   | 4           | 1                                   | 0.956                                    | 1.291    | 0.847   | NA       | NA     | NA      | NA        | NA     | >5                                       | NA                                      | 0                                   | NA                                       | NA       | NA      | NA       | NA     | NA       | NA     | NA     | >5                                       | NA                                      | 0         | NA       | NA      | NA       | NA     | NA      | NA     | NA     | NA    |    |
| IP00012677   | TESK2   | TESK2     | 317                  | 28          | 7                                   | 1.283                                    | 1.372    | 1.112   | 0.808    | 0.881  | 0.658   | 0.710     | 0.562  | >5                                       | 0.122                                   | 5                                   | 1.029                                    | 1.247    | 0.855   | 0.703    | 0.712  | 0.532    | 0.428  | 0.326  | 0.378                                    | 0.102                                   | 7         | 1.072    | 1.014   | 1.093    | 0.969  | 0.893   | 0.843  | >5     | NA    |    |
| IP00005733   | TPH1    | TPH1      | 341                  | 26          | 8                                   | 1.047                                    | 1.147    | 0.945   | 0.692    | 0.948  | 0.598   | 0.645     | 0.469  | >5                                       | 0.096                                   | 7                                   | 1.100                                    | 1.119    | 0.844   | 0.892    | 0.890  | 0.679    | 0.585  | 0.478  | >5                                       | 0.107                                   | 9         | 1.397    | 0.999   | 1.260    | 1.036  | 0.867   | 0.879  | >5     | NA    |    |
| IP00016433   | TGFB2   | TGFB2     | 241                  | 26          | 8                                   | 0.906                                    | 0.916    | 1.035   | NA       | 0.388  | NA      | NA        | NA     | 0.206                                    | 0.124                                   | 4                                   | NA                                       | NA       | NA      | 0.749    | NA     | NA       | NA     | NA     | NA                                       | 0.103                                   | NA        | 1        | 1.103   | 1.035    | 0.945  | 0.894   | 0.894  | 0.894  | >5    | NA |
| IP00032880   | THOC4   |           | 62                   | 9           | 0                                   | NA                                       | NA       | NA      | NA       | NA     | NA      | NA        | NA     | >5                                       | NA                                      | 1                                   | NA                                       | NA       | NA      | 0.971    | NA     | 0.871    | NA     | 0.594  | >5                                       | NA                                      | 1         | 1.117    | 1.274   | 1.067    | 1.039  | 0.695   | 1.208  | >5     | NA    |    |
| IP00021676   | TKT     | TKT       | 91                   | 6           | 0                                   | NA                                       | NA       | NA      | NA       | NA     | NA      | NA        | NA     | >5                                       | NA                                      | 2                                   | NA                                       | NA       | 1.109   | 1.003    | 1.576  | 1.356    | 0.998  | 0.680  | >5                                       | NA                                      | 2         | 1.331    | NA      | 0.901    | NA     | 0.900   | NA     | >5     | NA    |    |
| IP00028994   | TLN1    | TLN1      | 102                  | 18          | 3                                   | 1.049                                    | 1.286    | 1.209   | 0.654    | 0.996  | 0.339   | 0.642     | 0.776  | >5                                       | 0.086                                   | 7                                   | NA                                       | NA       | 1.537   | 1.938    | 1.784  | 1.321    | 0.631  | 0.930  | >5                                       | NA                                      | 2         | 1.542    | 0.723   | 1.448    | 1.482  | 1.631   | 1.129  | >5     | NA    |    |
| IP00014685   | TNKK    | ZC2_TNKK  | 343                  | 36          | 3                                   | 1.102                                    | 0.990    | 0.859   | NA       | 0.776  | NA      | 0.657     | NA     | >5                                       | NA                                      | 4                                   | 0.807                                    | 0.862    | 0.955   | 0.913    | 0.865  | 0.948    | 0.803  | 0.431  | 3.187                                    | 0.484                                   | 6         | 1.099    | 1.014   | 1.602    | 0.468  | 0.239   | 0.837  | >5     | NA    |    |
| IP00022633   | TNKK    | TNKK      | 779                  | 72          | 29                                  | 1.141                                    | 1.147    | 0.984   | 0.770    | 0.782  | 0.755   | 0.570     | 0.586  | >5                                       | 0.082                                   | 22                                  | 1.029                                    | 1.242    | 0.963   | 0.986    | 0.917  | 1.034    | 0.734  | 0.673  | >5                                       | NA                                      | 20        | 1.201    | 0.988   | 1.172    | 1.037  | 0.942   | 0.924  | >5     | NA    |    |
| IP00044205   | TNKK    | ACK       | 439                  | 32          | 10                                  | 1.044                                    | 0.963    | 0.879   | 0.575    | 0.612  | 0.457   | 0.349     | 0.267  | 0.162                                    | 0.303                                   | 1                                   | 0.881                                    | 1.214    | 0.809   | NA       | 0.582  | 0.435    | 0.419  | 0.201  | 0.202                                    | 0.092                                   | 12        | 1.335    | 0.874   | 1.283    | 0.977  | 0.955   | 0.833  | >5     | NA    |    |
| IP00046502   | TRAF1   |           | 121                  | 9           | 3                                   | 1.066                                    | 1.286    | 1.209   | 0.654    | 0.996  | 0.339   | 0.642     | 0.776  | >5                                       | 0.086                                   | 7                                   | NA                                       | NA       | 1.537   | 1.938    | 1.784  | 1.321    | 0.631  | 0.930  | >5                                       | NA                                      | 2         | 1.542    | 0.723   | 1.448    | 1.482  | 1.631   | 1.129  | >5     | NA    |    |
| IP00021730   | TRAF1   |           | 209                  | 13          | 2                                   | NA                                       | NA       | NA      | 0.728    | NA     | NA      | NA        | NA     | 0.650                                    | >5                                      | NA                                  | 4  | NA       | NA      | 0.877    | NA     | 1.088    | NA     | NA     | NA                                       | >5                                      | NA        | 3        | 1.241   | NA       | 1.035  | NA      | 0.949  | NA     | >5    | NA |
| IP00029236   | TRAF2   |           | 486                  | 38          | 10                                  | 1.095                                    | 1.167    | 0.888   | 0.763    | 0.752  | 0.687   | 0.469     | 0.344  | 0.904                                    | 0.329                                   | 16                                  | 0.732                                    | 1.034    | 1.006   | 0.882    | 0.940  | 0.893    | 0.726  | 0.653  | >5                                       | NA                                      | 8         | 1.021    | 1.154   | 1.118    | 0.992  | 0.842   | 0.942  | >5     | NA    |    |
| IP00043462   | TRIM59  |           | 145                  | 11          | 3                                   | NA                                       | NA       | NA      | 0.663    | NA     | 0.725   | NA        | 0.439  | 2.575                                    | NA                                      | 2                                   | 0.649                                    | 0.649    | 1.080   | NA       | 1.027  | NA       | 0.633  | NA     | >5                                       | NA                                      | 2         | NA       | 1.085   | NA       | 0.864  | NA      | 0.916  | >5     | NA    |    |
| IP00016840   | TRPA    |           | 60                   | 5           | 0                                   | 1.652                                    | 1.176    | 1.335   | NA       | NA     | NA      | NA        | NA     | >5                                       | NA                                      | 0                                   | NA                                       | NA       | NA      | NA       | NA     | NA       | NA     | NA     | >5                                       | NA                                      | 0         | NA       | NA      | NA       | NA     | NA      | NA     | NA     | NA    |    |
| IP00055503   | TRPC4   |           | 50                   | 0           | NA                                  | NA                                       | NA       | NA      | NA       | NA     | NA      | NA        | NA     | >5                                       | NA                                      | 0                                   | NA                                       | NA       | NA      | NA       | 0.940  | NA       | 0.526  | >5     | NA                                       | 0                                       | NA        | NA       | NA      | NA       | NA     | NA      | NA     | NA     |       |    |
| IP00017909   | TUBA2   |           | 691                  | 23          | 0                                   | NA                                       | NA       | NA      | NA       | NA     | NA      | NA        | NA     | >5                                       | NA                                      | 1                                   | NA                                       | NA       | NA      | NA       | NA     | NA       | NA     | NA     | >5                                       | NA                                      | 2         | 1.112    | NA      | 1.239    | NA     | 0.842   | NA     | >5     | NA    |    |
| IP00037144   | TUBA6   |           | 1309                 | 263         | 65                                  | 1.056                                    | 1.039    | 1.019   | 0.914    | 0.869  | 0.807   | 0.617     | 0.643  | >5                                       | NA                                      | 61                                  | 1.068                                    | 1.046    | 1.191   | 0.988    | 1.103  | 0.978    | 0.847  | 0.631  | >5                                       | NA                                      | 42        | 1.081    | 0.910   | 1.124    | 1.050  | 0.797   | 0.856  | >5     | NA    |    |
| IP00011654   | TUBB    |           | 1371                 | 131         | 61                                  | 1.096                                    | 0.966    | 0.911   | 0.761    | 0.812  | 0.707   | 0.609     | 0.514  | >5                                       | 0.203                                   | 19                                  | 0.894                                    | 0.937    | 1.033   | 0.945    | 1.049  | 0.929    | 0.719  | 0.550  | >5                                       | 0.864                                   | 43        | 1.167    | 0.999   | 1.123    | 1.017  | 0.921   | 0.817  | >5     | NA    |    |
| IP00055598   | TUBB8   |           | 1154                 | 108         | 3                                   | 1.086                                    | 0.947    | 0.875   | 0.685    | 0.811  | 0.721   | 0.628     | 0.539  | >5                                       | 0.006                                   | 2                                   | NA                                       | NA       | 1.216   | 0.828    | 0.707  | 0.585    | 0.441  | 0.701  | >5                                       | NA                                      | 1         | 1.030    | 0.939   | 1.041    | 0.971  | 0.891   | 0.739  | >5     | NA    |    |
| IP00021707   | TUFM    |           | 82                   | 10          | 2                                   | 0.741                                    | 0.884    | 0.867   | NA       | NA     | NA      | NA        | NA     | >5                                       | NA                                      | 2                                   | NA                                       | NA       | 1.148   | 0.700    | 1.184  | 0.933    | 0.596  | 0.654  | >5                                       | 0.411                                   | 1         | 0.902    | NA      | 1.523    | NA     | 1.178   | NA     | >5     | NA    |    |
| IP00047079   | TXLNA   |           | 65                   | 10          | 1                                   | NA                                       | NA       | 0.333   | NA       | 0.548  | NA      | 0.165     | NA     | >5                                       | NA                                      | 0                                   | NA                                       | NA       | NA      | 0.817    | 1.163  | 1.542    | 0.797  | 1.099  | >5                                       | NA                                      | 0         | NA       | NA      | NA       | NA     | NA      | NA     | NA     | NA    |    |
| IP000216286  | TYK2    |           | 75                   | 8           | 3                                   | NA                                       | NA       | 1.007   | 0.794    | 0.932  | 0.814   | 0.707     | 0.705  | >5                                       | NA                                      | 2                                   | 0.703                                    | NA       | NA      | 0.817    | 1.163  | 1.542    | 0.797  | 1.099  | >5                                       | NA                                      | 2         | 0.969    | 0.918   | 1.015    | 0.968  | 0.762   | 0.719  | >5     | 0.063 |    |
| IP00038581   | TYXDC   |           | 108                  | 14          | 5                                   | 1.006                                    | 1.105    | 1.047   | NA       | 0.844  | 0.751   | 0.628     | 0.538  | 0.282                                    | 0.100                                   | 3                                   | 0.882                                    | 1.021    | 1.171   | 1.090    | 1.415  | 0.970    | 0.680  | >5     | NA                                       | 2                                       | 1.216     | 0.933    | 1.184   | 1.070    | 0.901  | 0.739   | >5     | NA     |       |    |
| IP00022353   | TYK2    | TYK2      | 1745                 | 124         | 55                                  | 0.972                                    | 0.945    | 0.835   | 0.815    | 0.836  | 0.775   | 0.580     | 0.543  | >5                                       | 0.448                                   | 45                                  | 1.001                                    | 1.103    | 0.917   | 0.961    | 0.954  | 0.975    | 0.758  | 0.486  | 3.185                                    | 1.067                                   | 48        | 1.176    | 0.952   | 1.149    | 0.962  | 0.926   | 0.767  | >5     | NA    |    |
| IP000328348  | UBA2    |           | 180                  | 14          | 5                                   | NA                                       | NA       | NA      | NA       | NA     | NA      | NA        | NA     | >5                                       | NA                                      | 3                                   | NA                                       | NA       | 0.904   | NA       | 0.903  | NA       | 0.541  | NA     | >5                                       | NA                                      | 4         | 0.855    | NA      | 0.884    | NA     | 0.905   | NA     | >5     | NA    |    |
| IP000411818  | ULK3    |           | 816                  | 53          | 27                                  | 0.949                                    | 1.049    | 0.860   | 0.770    | 0.924  | 0.677   | 0.577     | 0.450  | 2.445                                    | 0.494                                   | 25                                  | 0.849                                    | 1.053    | 0.933   | 0.917    | 1.101  | 0.802    | 0.916  | 0.695  | >5                                       | NA                                      | 17        | 1.160    | 0.992   | 1.194    | 0.968  | 0.900   | 0.911  | >5     | NA    |    |
| IP00046599   | VARS1   |           | 141                  | 14          | 1                                   | 1.023                                    | 1.103    | 0.992   | NA       | NA     | NA      | NA        | NA     | >5                                       | NA                                      | 2                                   | 0.672                                    | 0.802    | 1.402   | NA       | NA     | NA       | NA     | NA     | >5                                       | NA                                      | 0         | NA       | NA      | NA       | NA     | NA      | NA     | NA     | NA    |    |
| IP00047850   | VCP     |           | 74                   | 2           | 1                                   | NA                                       | NA       | NA      | 0.795    | NA     | 0.704   | NA        | 0.449  | 1.124                                    | NA                                      | 1                                   | NA                                       | NA       | 1.569   | 1.572    | 1.258  | 1.671    | 0.915  | 1.045  | >5                                       | NA                                      | 1</       |          |         |          |        |         |        |        |       |    |

| SP1 acc. no. | Protein | Accession | Phosphopeptide sequence |
|--------------|---------|-----------|-------------------------|
|--------------|---------|-----------|-------------------------|

[illegible]



| IP00029262 | RASGAP1 | EYNTIR | 1 | 3 |  | 460 |  | 480 PhosphoELM | 21 | 5 | 7 | NA | 1.561 | NA | 1.613 | NA | 0.573 | N | NA | NA | NA | NA | NA | NA | N | NA | NA | NA | NA | NA | NA | N | NA | NA | NA | NA | NA | N | NA | NA | NA | NA | NA | NA | N | 0.81 | 0.639 | 0.949 | 0.986 | 0.67 | 0.201 | Y |
|------------|---------|--------|---|---|--|-----|--|----------------|----|---|---|----|-------|----|-------|----|-------|---|----|----|----|----|----|----|---|----|----|----|----|----|----|---|----|----|----|----|----|---|----|----|----|----|----|----|---|------|-------|-------|-------|------|-------|---|
|            |         |        |   |   |  |     |  |                |    |   |   |    |       |    |       |    |       |   |    |    |    |    |    |    |   |    |    |    |    |    |    |   |    |    |    |    |    |   |    |    |    |    |    |    |   |      |       |       |       |      |       |   |

| Protein                             | Drug added to lysate or cells in culture   | Bosutinib (B)                                    | Dasatinib (D)                                   | Imatinib (I)                                   | Sequence   | P-Site                            | [drug] inducing half maximal reduction of P-peptide (uM)  | [drug] inducing half maximal binding competition of protein (uM)                             | References (PMID) and comment   |
|-------------------------------------|--|--|---|--|--|-----------------------------------|---|--|---|
| Sites on tyrosine kinases           |  |  |   |  |  |                                   |   |  |   |
| CSK                                 | lysate cells<br>lysate cells<br>lysate cells<br>lysate cells   | B<br>B<br><br>D                                  | <br>D<br>D<br><br>I                             | <br><br><br>I                                  | VMEGTVAAQDEFYR<br>VMEGTVAQDEFYR<br>VMEGTVAQDEFYR<br>VMEGTVAQDEFYR<br>VMEGTVAQDEFYR<br>VMEGTVAQDEFYR  | Y184                              | 0.32<br><0.01<br>0.03<br><0.01<br>0.07<br>>5  | 0.71<br>0.12<br>0.10<br>0.04<br>>10<br>>5  | PMID 9148770: Site is located in the probably flexible 'hinge region' between the SH2 and TK domains. Main site in HeLa cells. Induced by vanadate treatment. Likely not due to autophosphorylation. Does not affect kinase activity in vitro.                                      |
| JAK2                                | lysate cells   | B<br>B   |   |  | EVGDYGQLHETEVLLK<br>EVGDYGQLHETEVLLK   | Y570                              | 0.96<br>0.04  | >10*<br>N.D.   | PMID 16464493: Activating site, found in AML  |
| FAK/PTK2                            | lysate cells<br>lysate cells<br>lysate cells   | B<br>B<br><br>D                                  | <br>D<br>D<br><br>D                             |  | YMEDSTYYK<br>YMEDSTYYK<br>YMEDSTYYK<br>YMEDSTYYK   | Y576/577                          | 0.40<br>0.06<br>0.13<br>0.07  | 1.10<br>0.57<br>>10<br>>5  | PMID:14656986: Src phosphorylation sites , lead to activation of kinase   |
|                                     | lysate cells<br>lysate cells<br>lysate cells   | B<br>B<br><br>D                                  | <br>D<br>D<br><br>D                             |  | YMEDSTYYKASK<br>YMEDSTYYKASK<br>YMEDSTYYKASK<br>YMEDSTYYKASK   | Y576 and Y577                     | 0.20<br><br><0.01<br>0.03<br><0.01  | 1.10<br><br>0.57<br>>10<br>>5  | PMID:14656986: Src phosphorylation sites , lead to activation of kinase   |
| FER                                 | lysate cells<br>lysate cells<br>lysate cells<br>lysate cells   | B<br>B<br>B<br>B                                 |   |  | EPPPVVNYEEDAR<br>EPPPVVNYEEDAR<br>QEDGGVYSSSGLK<br>QEDGGVYSSSGLK   | Y402<br><br>Y714                  | 0.74<br>0.12<br>1.00<br>0.02  | 1.90<br>0.39<br>1.90<br>0.39   | novel<br><br>PMID: 10998246   |
| PYK2                                | lysate cells<br>lysate cells   | B<br>B   |   |  | YIEDEYYKASVTR<br>YIEDEYYKASVTR   | Y579                              | 2.00<br><0.01   | 1.30<br>0.98   | PMID 15070849: Leads to activation of kinase  |
| TEC                                 | lysate cells<br>lysate cells<br>lysate cells   | B<br>B<br><br>D                                  | <br>D<br>D<br><br>D                             |  | YVLDDOYTSSSGAK<br>YVLDDOYTSSSGAK<br>YVLDDOYTSSSGAK<br>YVLDDOYTSSSGAK   | Y519                              | 0.54<br><0.01<br>0.03<br><0.01  | 0.57<br>0.01<br>0.06<br>0.01   | unpublished site  |
| Sites on serine / threonine kinases |  |  |   |  |  |                                   |   |  |   |
| BRAF                                | lysate cells   | B<br>B   |   |  | RDSSDDWEIPDQITVGQR<br>RDSSDDWEIPDQITVGQR   | S446/S447                         | >10<br>0.03   | N.D.<br>>5   | PMID 15710605: constitutive phosphorylation of Ser445 primes B-Raf for activation, oncogenic mutations within this region to block autoinhibition   |
| MAPK1                               | lysate cells<br>lysate cells<br>lysate cells<br>lysate cells<br>lysate cells   | B<br>B<br><br>D<br>D                             | <br>D<br>D<br><br>D                             | <br><br><br>I<br>I                             | VADPDHDTGFLTEYVATR<br>VADPDHDTGFLTEYVATR<br>VADPDHDTGFLTEYVATR<br>VADPDHDTGFLTEYVATR<br>VADPDHDTGFLTEYVATR<br>VADPDHDTGFLTEYVATR   | T184 and Y186                     | >10<br>0.01<br>>10<br>>10<br><0.01<br>>10<br>0.33   | >10<br>>5<br>>10<br>>5<br>>10<br>>5  | PMID 9677429: MEK site in T-loop, regulating ERK2 activity.   |
| RPS6KA3 (RSK2)                      | lysate cells<br>lysate cells<br>lysate cells<br>lysate cells   | B<br>B<br><br>D                                  | <br>D<br>D<br><br>D                             |  | DSPGIPPSANAHQLFR<br>DSPGIPPSANAHQLFR<br>DSPGIPPSANAHQLFR<br>DSPGIPPSANAHQLFR   | S369                              | 0.2<br>0.04<br><br>0.20<br><0.01<br>>10<br>0.36   | 2.39<br>0.12<br><br>>10<br>>5<br>>10<br>>5   | PMID 15345747: Phosphorylation of the linker region by ERK1/2 activates RSKs<br>PMID 15657420, 10980595: Activating MAP kinase site. p90 ribosomal S6 kinase is recruited to the nucleus upon activation.   |
| RPS6KA1 (RSK3)                      | lysate cells<br>lysate cells<br>lysate cells<br>lysate cells<br>lysate cells<br>lysate cells<br>lysate cells<br>lysate cells<br>lysate cells | B<br>B<br><br>D<br>D<br><br>B<br>B<br><br>D<br>D | <br>D<br>D<br><br>D<br>D<br><br>D<br>D<br><br>D | <br><br><br>I<br>I<br><br>I<br>I<br><br>I<br>I | GFSFVATGLMEDDGKPR<br>GFSFVATGLMEDDGKPR<br>GFSFVATGLMEDDGKPR<br>GFSFVATGLMEDDGKPR<br>GFSFVATGLMEDDGKPR<br>GFSFVATGLMEDDGKPR<br>TPKDSGIPPSAGAHQLFR<br>TPKDSGIPPSAGAHQLFR<br>TPKDSGIPPSAGAHQLFR<br>TPKDSGIPPSAGAHQLFR<br>TPKDSGIPPSAGAHQLFR<br>TPKDSGIPPSAGAHQLFR | S389<br><br><br><br><br><br>S372  | >10<br>0.03<br>>10<br>>10<br><0.01<br>>10<br>0.23<br>>10<br>0.02<br>>10<br><0.01<br>>10<br>0.30                       | >10<br>>5<br>>10<br>>10<br>>5<br>>5<br>>10<br>>5<br>>10<br>>5<br>>5                          | PMID 15345747: Site found in mouse brain. Possible autophosphorylation<br>PMID 15345747: Phosphorylation of the linker region by ERK1/2 activates RSKs<br>PMID 15657420, 10980595: Activating MAP kinase site. p90 ribosomal S6 kinase is recruited to the nucleus upon activation. |
| MAP3K4                              | lysate cells   |  | D<br>D  |  | QTSRTDCPADR<br>QTSRTDCPADR   | T213/S214/<br>T216                | 0.25<br><0.01   | 1.90<br>0.83   |   |
| Sites on adaptor proteins           |  |  |   |  |  |                                   |   |  |   |
| DOK1                                | lysate cells<br>lysate cells<br>lysate cells<br>lysate cells<br>lysate cells<br>lysate cells<br>lysate cells                                 | <br><br>B<br>B<br><br>D<br>D                     | <br><br><br>D<br>D<br><br>D<br>D                | I<br>I<br>I<br>I<br><br>I<br>I                 | ADSHGEVAEGK<br>ADSHGEVAEGK<br>KKPLYWDLYEHAQQQLLK<br>KKPLYWDLYEHAQQQLLK<br>SHNSALYSQVQK<br>SHNSALYSQVQK<br>SHNSALYSQVQK<br>SHNSALYSQVQK<br>SHNSALYSQVQK<br>SHNSALYSQVQK   | S269<br><br>Y337/Y341<br><br>Y449 | N.D.<br>62% decrease at 1 uM<br>64% decrease at 1 uM<br>0.60<br><0.01<br>0.10<br><0.01<br>>10<br>50% decrease at 1 uM | N.D.<br>>10<br>N.D.<br>>10<br>N.D.<br>53% competed at 0.33 mM<br>N.D.<br>N.D.<br>N.D.<br>>10 | Downstream of a S/T kinase regulated by one of the imatinib targets<br>PMID 16094384<br>Likely substrate of Abl<br>PMID 16497976: Y337/Y341 are likely Abl sites.<br>Likely substrate of Abl<br>PMID 16497976, 16094384, 15659558, 15592455, 12522270: Y449 is a likely Abl site    |
| Sites on protein phosphatases       |  |  |   |  |  |                                   |   |  |   |
| BDP1/PTPN18                         | lysate cells<br>lysate cells<br>lysate cells<br>lysate cells   | B<br>B<br>B<br>B                                 | <br><br><br>D                                   |  | ENCAPLYDDALFLR<br>ENCAPLYDDALFLR<br>SAEEAPLYSKVTTPR<br>SAEEAPLYSKVTTPR<br>SAEEAPLYSKVTTPR<br>SAEEAPLYSKVTTPR   | Y314<br><br>Y389                  | 0.90<br>0.01<br>1.20<br><0.01<br>0.16<br><0.01  | N.D.<br>0.05<br>N.D.<br>0.05<br>N.D.<br>N.D.   | PMID 15951569: EGF-induced site of unknown function on a non-receptor protein tyrosine phosphatase  |

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Layout of quantitative Kinobeads experiments. L1/L2/L3 refer to lysate competition experiments, C1/C2/C3 refer to experiments where compounds were applied to living cells in culture. The IMAC column indicates whether or not phospho-peptide enrichment was performed.

| Compound  | Experiment | IMAC | iTRAQ label                       |       |         |     |
|-----------|------------|------|-----------------------------------|-------|---------|-----|
|           |            |      | 114                               | 115   | 116     | 117 |
|           |            |      | Compound concentration [ $\mu$ M] |       |         |     |
| Imatinib  | L1         | YES  | 1                                 | 0.1   | 0.01    | 0   |
| Imatinib  | L2         | YES  | 10                                | 0.3   | 0.03    | 0   |
| Dasatinib | L1         | NO   | 0.01                              | 0.001 | 0.00001 | 0   |
| Dasatinib | L2         | YES  | 1                                 | 0.1   | 0.01    | 0   |
| Dasatinib | L3         | YES  | 10                                | 0.3   | 0.03    | 0   |
| Bosutinib | L1         | NO   | 0.01                              | 0.001 | 0.00001 | 0   |
| Bosutinib | L2         | YES  | 1                                 | 0.1   | 0.01    | 0   |
| Bosutinib | L3         | YES  | 10                                | 0.3   | 0.03    | 0   |
| Imatinib  | C1         | YES  | 1                                 | 0.1   | 0.01    | 0   |
| Imatinib  | C2         | YES  | 5                                 | 0.3   | 0.03    | 0   |
| Dasatinib | C1         | NO   | 0.01                              | 0.001 | 0.00001 | 0   |
| Dasatinib | C2         | YES  | 1                                 | 0.1   | 0.01    | 0   |
| Dasatinib | C3         | YES  | 5                                 | 0.3   | 0.03    | 0   |
| Bosutinib | C1         | NO   | 0.01                              | 0.001 | 0.00001 | 0   |
| Bosutinib | C2         | YES  | 1                                 | 0.1   | 0.01    | 0   |
| Bosutinib | C3         | YES  | 5                                 | 0.3   | 0.03    | 0   |

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Overview of individual experiments performed in this study.

The experiment ID column may be used to reference spectra to experiments in **Supplementary Tables 10** and **11**

| EXPERIMENT_ID | Cell Line | Affinity matrix           | 'Free' compound profiled | application of 'free' compound to |
|---------------|-----------|---------------------------|--------------------------|-----------------------------------|
| 1             | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 2             | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 3             | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 4             | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 5             | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 6             | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 7             | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 8             | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 9             | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 10            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 11            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 12            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 13            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 14            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 15            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 16            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 17            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 18            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 19            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 20            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 21            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 22            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 23            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 24            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 25            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 26            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 27            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 28            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 29            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 30            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 31            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 32            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 33            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 34            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 35            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 36            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 37            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 38            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 39            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 40            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 41            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 42            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 43            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 44            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 45            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 46            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 47            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 48            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 49            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 50            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 51            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 52            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 53            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 54            | HeLa      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 55            | K562      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 56            | K562      | Bis-indolyl maleimide III | none (pulldown only)     | NA                                |
| 57            | HeLa      | CZC8004                   | none (pulldown only)     | NA                                |

| EXPERIMENT_ID | Cell Line | Affinity matrix    | 'Free' compound profiled | application of 'free' compound to |
|---------------|-----------|--------------------|--------------------------|-----------------------------------|
| 58            | HeLa      | CZC8004            | none (pulldown only)     | NA                                |
| 59            | HeLa      | CZC8004            | none (pulldown only)     | NA                                |
| 60            | HeLa      | CZC8004            | none (pulldown only)     | NA                                |
| 61            | HeLa      | CZC8004            | none (pulldown only)     | NA                                |
| 62            | HeLa      | CZC8004            | none (pulldown only)     | NA                                |
| 63            | K562      | CZC8004            | none (pulldown only)     | NA                                |
| 64            | HeLa      | Gefitinib analogue | none (pulldown only)     | NA                                |
| 65            | K562      | Gefitinib analogue | none (pulldown only)     | NA                                |
| 66            | K562      | Gefitinib analogue | none (pulldown only)     | NA                                |
| 67            | HeLa      | Imatinib analogue  | none (pulldown only)     | NA                                |
| 68            | HeLa      | Imatinib analogue  | none (pulldown only)     | NA                                |
| 69            | HeLa      | Imatinib analogue  | none (pulldown only)     | NA                                |
| 70            | K562      | Imatinib analogue  | none (pulldown only)     | NA                                |
| 71            | K562      | Imatinib analogue  | none (pulldown only)     | NA                                |
| 72            | K562      | Imatinib analogue  | none (pulldown only)     | NA                                |
| 73            | K562      | Imatinib analogue  | none (pulldown only)     | NA                                |
| 74            | HeLa      | Lapatinib analogue | none (pulldown only)     | NA                                |
| 75            | HeLa      | Lapatinib analogue | none (pulldown only)     | NA                                |
| 76            | HeLa      | Lapatinib analogue | none (pulldown only)     | NA                                |
| 77            | HeLa      | PD173955 analogue  | none (pulldown only)     | NA                                |
| 78            | K562      | PD173955 analogue  | none (pulldown only)     | NA                                |
| 79            | K562      | PD173955 analogue  | none (pulldown only)     | NA                                |
| 80            | K562      | PD173955 analogue  | none (pulldown only)     | NA                                |
| 81            | HeLa      | Pelitinib analogue | none (pulldown only)     | NA                                |
| 82            | HeLa      | Pelitinib analogue | none (pulldown only)     | NA                                |
| 83            | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 84            | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 85            | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 86            | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 87            | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 88            | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 89            | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 90            | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 91            | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 92            | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 93            | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 94            | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 95            | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 96            | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 97            | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 98            | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 99            | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 100           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 101           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 102           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 103           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 104           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 105           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 106           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 107           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 108           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 109           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 110           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 111           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 112           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 113           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 114           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 115           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 116           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 117           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 118           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 119           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 120           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |
| 121           | HeLa      | Purvalanol B       | none (pulldown only)     | NA                                |

| EXPERIMENT_ID | Cell Line | Affinity matrix        | 'Free' compound profiled | application of 'free' compound to |
|---------------|-----------|------------------------|--------------------------|-----------------------------------|
| 122           | HeLa      | Purvalanol B           | none (pulldown only)     | NA                                |
| 123           | HeLa      | Purvalanol B           | none (pulldown only)     | NA                                |
| 124           | HeLa      | Purvalanol B           | none (pulldown only)     | NA                                |
| 125           | HeLa      | Purvalanol B           | none (pulldown only)     | NA                                |
| 126           | HeLa      | Purvalanol B           | none (pulldown only)     | NA                                |
| 127           | HeLa      | Purvalanol B           | none (pulldown only)     | NA                                |
| 128           | HeLa      | Purvalanol B           | none (pulldown only)     | NA                                |
| 129           | HeLa      | Purvalanol B           | none (pulldown only)     | NA                                |
| 130           | HeLa      | Purvalanol B           | none (pulldown only)     | NA                                |
| 131           | HeLa      | Purvalanol B           | none (pulldown only)     | NA                                |
| 132           | K562      | Purvalanol B           | none (pulldown only)     | NA                                |
| 133           | HeLa      | Ro3201195 analogue     | none (pulldown only)     | NA                                |
| 134           | HeLa      | Ro3201195 analogue     | none (pulldown only)     | NA                                |
| 135           | K562      | Ro3201195 analogue     | none (pulldown only)     | NA                                |
| 136           | HeLa      | Staurosporine analogue | none (pulldown only)     | NA                                |
| 137           | HeLa      | Staurosporine analogue | none (pulldown only)     | NA                                |
| 138           | HeLa      | Staurosporine analogue | none (pulldown only)     | NA                                |
| 139           | HeLa      | Staurosporine analogue | none (pulldown only)     | NA                                |
| 140           | HeLa      | Vandetanib analogue    | none (pulldown only)     | NA                                |
| 141           | HeLa      | Vandetanib analogue    | none (pulldown only)     | NA                                |
| 142           | Ramos     | Kinobeads              | none (pulldown only)     | NA                                |
| 143           | Ramos     | Kinobeads              | none (pulldown only)     | NA                                |
| 144           | Ramos     | Kinobeads              | none (pulldown only)     | NA                                |
| 145           | Ramos     | Kinobeads              | none (pulldown only)     | NA                                |
| 146           | HeLa      | Kinobeads              | none (pulldown only)     | NA                                |
| 147           | Jurkat    | Kinobeads              | none (pulldown only)     | NA                                |
| 148           | K562      | Kinobeads              | none (pulldown only)     | NA                                |
| 149           | Placenta  | Kinobeads              | none (pulldown only)     | NA                                |
| 150           | K562      | Kinobeads              | Imatinib                 | living cells                      |
| 151           | K562      | Kinobeads              | Imatinib                 | living cells                      |
| 152           | K562      | Kinobeads              | Imatinib                 | living cells                      |
| 153           | K562      | Kinobeads              | Imatinib                 | living cells                      |
| 154           | K562      | Kinobeads              | Dasatinib                | living cells                      |
| 155           | K562      | Kinobeads              | Dasatinib                | living cells                      |
| 156           | K562      | Kinobeads              | Dasatinib                | living cells                      |
| 157           | K562      | Kinobeads              | Dasatinib                | living cells                      |
| 158           | K562      | Kinobeads              | Dasatinib                | living cells                      |
| 159           | K562      | Kinobeads              | Dasatinib                | living cells                      |
| 160           | K562      | Kinobeads              | Bosutinib                | living cells                      |
| 161           | K562      | Kinobeads              | Bosutinib                | living cells                      |
| 162           | K562      | Kinobeads              | Bosutinib                | living cells                      |
| 163           | K562      | Kinobeads              | Bosutinib                | living cells                      |
| 164           | K562      | Kinobeads              | Bosutinib                | living cells                      |
| 165           | K562      | Kinobeads              | Bosutinib                | living cells                      |
| 166           | K562      | Kinobeads              | Imatinib                 | lysate                            |
| 167           | K562      | Kinobeads              | Imatinib                 | lysate                            |
| 168           | K562      | Kinobeads              | Imatinib                 | lysate                            |
| 169           | K562      | Kinobeads              | Imatinib                 | lysate                            |
| 170           | K562      | Kinobeads              | Dasatinib                | lysate                            |
| 171           | K562      | Kinobeads              | Dasatinib                | lysate                            |
| 172           | K562      | Kinobeads              | Dasatinib                | lysate                            |
| 173           | K562      | Kinobeads              | Dasatinib                | lysate                            |
| 174           | K562      | Kinobeads              | Dasatinib                | lysate                            |
| 175           | K562      | Kinobeads              | Dasatinib                | lysate                            |
| 176           | K562      | Kinobeads              | Bosutinib                | lysate                            |
| 177           | K562      | Kinobeads              | Bosutinib                | lysate                            |
| 178           | K562      | Kinobeads              | Bosutinib                | lysate                            |
| 179           | K562      | Kinobeads              | Bosutinib                | lysate                            |
| 180           | K562      | Kinobeads              | Bosutinib                | lysate                            |
| 181           | K562      | Kinobeads              | Bosutinib                | lysate                            |

## Supplementary Methods

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### A quantitative chemical proteomics approach reveals novel modes of action of clinical ABL kinase inhibitors

Marcus Bantscheff<sup>1,3</sup>, Dirk Eberhard<sup>1,3</sup>, Yann Abraham<sup>1</sup>, Sonja Bastuck<sup>1</sup>, Markus Boesche<sup>1</sup>, Scott Hobson<sup>1</sup>, Toby Mathieson<sup>1</sup>, Jessica Perrin<sup>1</sup>, Manfred Raida<sup>1</sup>, Christina Rau<sup>1</sup>, Valérie Reader<sup>2</sup>, Gavain Sweetman<sup>1</sup>, Andreas Bauer<sup>1</sup>, Tewis Bouwmeester<sup>1</sup>, Carsten Hopf<sup>1</sup>, Ulrich Kruse<sup>1</sup>, Gitte Neubauer<sup>1</sup>, Nigel Ramsden<sup>2</sup>, Jens Rick<sup>1</sup>, Bernhard Kuster<sup>1\*</sup> & Gerard Drewes<sup>1\*</sup>

<sup>1</sup> Cellzome AG, Meyerhofstrasse 1, D-69117 Heidelberg, Germany

<sup>2</sup> Cellzome UK Ltd., Chesterford Research Park, Cambridge CB10 1XL, United Kingdom

<sup>3</sup> These authors contributed equally to this work

\*Correspondence: G.D. (gerard.drewes@cellzome.com) or B.K. (bernhard.kuster@cellzome.com)

#### Preparation of Kinobeads

Broad spectrum capturing ligands were immobilized on Sepharose beads through covalent linkage using amino and carboxyl groups. Compounds that do not contain a suitable functional group were modified in order to introduce such a group (see **Supplementary Table 1**). Details of ligand syntheses are reported elsewhere<sup>1</sup>. For the immobilization via amino groups, 1 mL of NHS-activated Sepharose (Amersham) was equilibrated in DMSO and the ligand (0.1 µmol/mL of beads in DMSO) and 15 µL of triethylamine were added and the reaction allowed to proceed on an end-over-end shaker for 16 hours. The coupling reaction was monitored by HPLC. Free NHS-groups were blocked with aminoethanol and washed beads were stored in isopropanol at -20°C. For the immobilization of compounds via carboxyl groups, NHS-activated Sepharose 4 equilibrated in DMSO is added to a 4:4:1 mixture of aminoethanol, triethylamine and ethylenediamine and the reaction was allowed to proceed for 16 hours on a shaker. After the reaction, the beads were washed with DMSO, and equilibrated in DMF. 100 µL of diisopropylethylamine and the ligand (0.1 µmol/mL of beads) were added, followed by 100 µL of a 100 mM solution of bromo-tris-pyrrolidino-phosphonium

hexafluorophosphate in DMF. After incubation over night on a shaker, the beads were blocked by 100  $\mu$ L of 100 mM NHS-acetate as blocking reagent for 16 hours. Coupling was monitored by HPLC. Beads were washed in DMSO and stored in isopropanol and stored at -20°C.

### **Kinobeads competition binding assay**

Cells were harvested by centrifugation and homogenized in lysis buffer (50 mM Tris/HCl pH 7.5, 5% glycerol, 1.5 mM  $MgCl_2$ , 150 mM NaCl, 20 mM NaF, 1 mM  $Na_3VO_4$ , 1 mM DTT, 5  $\mu$ M Calyculin A, 0.8 % Igepal-CA630, and a protease inhibitor cocktail) using a Dounce homogenizer on ice. Lysates were cleared by centrifugation at 50,000 g for 30 min. at 4°C, and adjusted to 5 mg/mL total protein concentration using the Bradford assay. Compounds were dissolved in DMSO and added to 1 mL lysate samples, and 35  $\mu$ L of a kinobeads suspension was added and agitated for 30 minutes at 4°C. This results in sufficient material for at least 10 LC-MS/MS samples for protein identification analysis, and in addition duplicate IMAC phospho-peptide samples (see below). For profiling of signaling pathways, compounds were added to  $10^8$  K562 cells per data point, grown at  $10^6$  cells/mL in RPMI/10% FCS.

After the incubation step, the beads were collected by centrifugation in a benchtop centrifuge for 1 minute at 800 rpm at 4°C, and washed once with 1 mL of ice-cold buffer (50 mM Tris/HCl pH 7.5, 5% (v/v) glycerol, 1.5 mM  $MgCl_2$ , 150 mM NaCl, 20 mM NaF, 1 mM DTT, 0.4 % Igepal-CA630). Beads were eluted with NuPAGE LDS buffer (Invitrogen), eluates were reduced, alkylated, separated on 4–12% NuPAGE gels (Invitrogen), and stained with colloidal Coomassie blue.

### **iTRAQ labeling of peptides**

For quantitative experiments, reduced and carbamidomethylated kinobead eluates were concentrated on 4–12% NuPAGE gels (Invitrogen) by running sample approximately 1 cm into the gel. After staining with colloidal Coomassie, gels were cut into three slices



and subjected to in-gel digestion as described<sup>2</sup>. Subsequently, peptide extracts were labeled with iTRAQ™ reagents (Applied Biosystems) by adding 10 µL reagent in ethanol and incubation for 1 hr at 20°C in 60% ethanol, 40 mM triethylammoniumbicarbonate (TEAB), pH 8.5<sup>3</sup>. After quenching of the reaction with glycine all labeled extracts of one gel lane were combined and mixed with differently labeled extracts from other competition experiments according to **Supplementary Table 8**.

### **Enrichment of phospho-peptides by immobilized metal affinity chromatography**

As indicated in **Supplementary Table 8**, selected samples were subjected to enrichment of phosphorylated peptides by immobilized metal affinity chromatography (IMAC; PhosSelect, Sigma) prior to mass spectrometric analysis as described<sup>4</sup>. LC-MS/MS for IMAC samples were performed twice.

### **LC-MS/MS analysis**

IMAC-binding and non-binding fractions were collected separately, acidified and dried in vacuo. Samples were then re-suspended in 0.1 % formic acid in water (non-binding fraction) or 4 mM EDTA, 10 mM TEAB, pH 8.5 in water (phospho-peptide enriched fraction) and aliquots of the sample were injected into a nano-LC system (Eksigent 1D+) which was directly coupled to a LTQ-Orbitrap mass spectrometer (Thermo-Finnigan). Peptides were separated on a custom made 20 cm x 75µM (ID) reversed phase column (Reprosil). Gradient elution was performed from 2% acetonitrile to 40% acetonitrile in 0.1% formic acid within 4 hrs. The LTQ-Orbitrap was operated under the control of XCalibur Developers kit 2.0. Intact peptides were detected in the Orbitrap at 60,000 resolution. Internal calibration was performed using the ion signal from  $(\text{Si}(\text{CH}_3)_2\text{O})_6\text{H}^+$  at  $m/z$  445.120025<sup>5</sup>. Data dependent tandem mass spectra were generated for up to six peptide precursors in the linear ion trap using pulsed-Q dissociation (PQD) to enable detection of iTRAQ reporter ions<sup>6</sup>. For PQD, the Q-value was set to 0.55, activation time was set to 0.32 ms and collision energy of 26 was used. Up to 1E5 ions were accumulated in the ion trap within a maximum ion accumulation time of 1 sec and two spectra were

averaged per peptide precursor. Further details on PQD/iTRAQ procedures will be published elsewhere (Bantscheff *et al.*, manuscript in preparation).

### Peptide and protein identification

Mascot<sup>TM</sup> 2.0 software (Matrix Science) was used for protein identification using 5 ppm mass tolerance for peptide precursors and 0.8 Da tolerance for fragment ions. Carbamidomethylation of cysteine residues and iTRAQ modification of lysine residues were set as fixed modifications and S,T,Y phosphorylation, methionine oxidation, N-terminal acetylation of proteins and iTRAQ modification of peptide N-termini were set as variable modifications. The search data base consisted of an in-house curated version of the IPI protein sequence database combined with a decoy version of this database<sup>7</sup>. The decoy data base was created using a script supplied by Matrix Science. The Mascot ion score threshold for this database was 38 (indicating <5% random spectrum to sequence assignments). Unless stated otherwise, we accepted protein identifications as follows:

- (i) for single spectrum to sequence assignments, we required this assignment to be the best match *and* a minimum Mascot score of 37 *and* a 10x difference of this assignment over the next best assignment. Based on these criteria, the decoy search results indicate <1% false positive identification rate;
- (ii) for multiple spectrum to sequence assignments and using the same parameters, the decoy search results indicate <0.1% false positive identification rate;
- (iii) for phospho-peptides <3% false positive identification rate was achieved either by a decoy analysis at a minimum Mascot score of 31 *or* by requiring the identification of a phospho-peptide in at least 12 of the 24 IMAC experiments (see section below).

### Functional annotation

The functional annotation provided in **Table 1** and **Supplementary Table 3** was performed by matching each identified protein to the “Sugen” kinase list<sup>8</sup>, to Gene Ontology (GO) terms<sup>9</sup> and to Interpro domains<sup>10</sup>.

### Heat map generation

For generation of heat maps (**Figure 1, Supplementary Figure 1**), a semi-quantitative estimation of relative protein abundance was achieved using the total number of spectrum to sequence matches (SSMs) obtained for individual proteins in cell lines<sup>11</sup>. The cell line for which the highest number of SSMs was obtained is indicated in dark blue. Lighter levels of blue indicate lower numbers of SSMs using a total of 15 levels of blue.

### Peptide and protein quantification

Centroided iTRAQ reporter ion signals were computed by the XCalibur software operating the mass spectrometer and extracted from MS data files using in-house developed software. Only peptides unique for identified proteins were used for relative protein quantification. iTRAQ reporter ion intensities were multiplied with the ion accumulation time yielding an area value proportional to the number of reporter ions present in the ion trap. Fold changes are reported based on iTRAQ reporter ion areas in comparison to vehicle control and were calculated using a linear model. For quantification of phosphorylated peptides, only those were considered for which the sum of iTRAQ areas was greater than 100.000. For more details see the **Supplementary Data** online section.

### Dose response binding curves and IC50 calculation

Dose-response curves were fitted using R ([www.r-project.org](http://www.r-project.org))<sup>12</sup> and the drc package ([www.bioassay.dk](http://www.bioassay.dk))<sup>13</sup>. For each protein, relative displacement values to the vehicle control were fitted to concentrations of compound using a 4-parameter, unconstrained log-logistic equation. In some cases, the upper limit had to be fixed to 1 (vehicle control) to allow proper fitting. Inflection point and IC50 (corresponding the 50% of the vehicle control) were reported for any protein that was displaced at least 40% compared to the vehicle control.

### Quality control and robustness of kinobead profiling

Kinobeads were generated in batches from 1 mL up to 100 mL. Quality controls of different batches were performed by monitoring the coupling reaction by HPLC and by testing each batch in a compound competition binding assay where IC<sub>50</sub> binding values for a number of kinases are generated using western blot-based quantification on a LICOR Odyssey instrument, as shown in **Figure 4a**. The observed reproducibility of the resulting IC<sub>50</sub> values between batches is typically better than twofold. In six different experiments using different batches of cell lysate, different batches of kinobeads, and different mass spectrometers, IC<sub>50</sub> binding values obtained were typically also within twofold. For instance, the IC<sub>50</sub> binding values for imatinib to BCR-ABL and NQO2 in K562 lysate determined in these six independent experiments were 128 +/- 93 nM and 42 +/- 14 nM, respectively. These values show only slightly higher variability than the values determined using the same batch of kinobeads and lysate (see **Supplementary Fig. 3**). For the profiling experiments shown in **Figure 1** and **Figure 3**, one single batch of K562 cell lysate was used.

### Biochemical kinase activity assays

Biochemical kinase activity assays were performed by the Invitrogen SelectScreen service, for the following kinases: BTK, EphB4, FAK/PTK2, FER, GCK, KHS1, KIT, MER, p38 $\alpha$ , and SYK. The concentration of ATP was selected to equal K<sub>m</sub>, except for p38 $\alpha$ , where 100  $\mu$ M ATP was used. Inhibition data for DDR2 were generated by the Upstate IC<sub>50</sub>Profiler Express<sup>TM</sup> service, using an ATP concentration of 200  $\mu$ M.

Inhibition data for DDR1 were generated in-house, using a purified recombinant fragment of human DDR1 containing the catalytic domain, purchased from Carna Biosciences. Inhibition was assayed in kinase buffer (20mM Tris pH 7.5, 2 mM MgCl<sub>2</sub>, 2 mM MnCl<sub>2</sub>, 0.1 mM Na<sub>3</sub>VO<sub>4</sub>, 0.05% Brij-35) supplemented with 10  $\mu$ M ( $\gamma$ -<sup>32</sup>P)ATP (20 Ci/mmol) and 25  $\mu$ M IRS1 peptide-F (a generous gift of Dr. Takashi Hara, Carna Biosciences) following published procedures<sup>14</sup>. Inhibition of DDR1 was also assayed by autophosphorylation using (per data point) 100 ng DDR1 in kinase buffer supplemented

with 2  $\mu\text{M}$  ( $\gamma$ - $^{32}\text{P}$ )ATP (100 Ci/mmol). Radioactive phosphate incorporated in DDR1 was quantified by SDS-PAGE and autoradiography using a Typhoon 9200 (Amersham Biosciences).

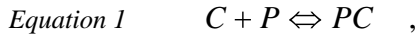
**Appendix: Factors influencing the competition binding assay**

There are a number of variables which in theory should affect the degree of competition of a protein binding to the capturing ligands on the kinobeads: (1) the affinity of a given protein for the capturing ligand, (2) the concentration of the capturing ligand, (3) the expression level of the kinase, or more directly, the concentration of the kinase in the lysate, and (4) the concentration and affinity of the non-immobilized compound in competition with the capturing ligand. It is advantageous to minimize the impact of the first three factors, so that, under conditions of competition with 'free' compound, the determined IC<sub>50</sub> competition values are close to 'true' dissociation constants, and are not influenced markedly by the other variables which tend to differ between individual kinases, ligands, and lysates. Therefore, we have selected conditions under which we do observe little (<10%) or no depletion of proteins from the lysate. This is achieved by (1) keeping the concentration of capturing ligands during the incubation at sub-micromolar levels, and (ii) by using a large excess of lysate to become independent of expression levels. Under these conditions, the data obtained for all proteins in the same sample can be directly compared. A more quantitative discussion of these factors is given below, and can also be found in the literature<sup>15, 16</sup>.

However, in some cases when one or more of the immobilized inhibitors exhibit very high affinity of for a given protein, the binding results for the non-immobilized test compounds binding to this protein could be skewed. The binding results would show a systematic shift towards higher IC<sub>50</sub> values if the dissociation constant (K<sub>d</sub>) of a given protein for the immobilized ligand would be substantially lower (by one or more orders of magnitude) than the concentration of the capturing ligand during the kinobeads binding step. In practical terms, this would be the case for proteins where the capturing ligand exhibits low nanomolar or even picomolar K<sub>d</sub> values, which is not expected to be the case for the immobilized broad-selectivity ligands used in this study. Such very high affinity capturing ligands may lead to substantial depletion of binding proteins from the lysate. We have tested this for a number of kinases and in no case observed more than 10

% depletion (data not shown). However, it should be noted that the relative order of binding for a number of ‘free’ test compounds to such a protein would still be correct.

The above arguments can be derived from a set of binding equations. If a compound C binds to a protein P:



the equilibrium is defined by:

$$\text{Equation 2} \quad K_D = \frac{[C] \cdot [P]}{[PC]} \quad ,$$

resulting in

$$\text{Equation 3} \quad \begin{aligned} \forall [C] &= [C]_{1/2} , \\ [P] &= [PC] \end{aligned} \quad ,$$

and

$$\text{Equation 4} \quad K_D = [C]_{1/2} \quad .$$

Upon the addition of a capturing ligand, this equilibrium is affected by a second process, namely, the binding of free protein to the immobilized ligand B:



Note that in the following equations, this does not necessarily implicate that an equilibrium state is reached. *PB* could also be a function of time.

This reaction influences the half-binding concentration of C as follows:

$$\begin{aligned} \text{Equation 6} \quad & \forall [C] = [C]_{1/2}, \\ & [P] + [PB] = [PC] . \end{aligned}$$

Furthermore, the initial protein concentration  $P_0$  is:

$$\text{Equation 7} \quad [P]_0 = [P] + [PC] + [PB] ,$$

Thus resulting in

$$\begin{aligned} \text{Equation 8} \quad & [P]_0 = [P] + [P] + [PB] + [PB] \\ & = 2[P] + 2[PB] \\ & = 2[PC] . \end{aligned}$$

Therefore, the initial concentration of free compound is:

$$\begin{aligned} \text{Equation 9} \quad & [C]_{1/2,0} = [C]_{1/2} + [PC] \\ & = [C]_{1/2} + \frac{[P]_0}{2} , \end{aligned}$$

And using equation 6, equation 2 is transformed into:



$$\begin{aligned}
 \text{Equation 10} \quad [C]_{1/2,0} &= K_D * \frac{[PC]}{[P]} + \frac{[P]_0}{2} \\
 &= K_D + K_D * \frac{[PB]}{[P]} + \frac{[P]_0}{2} .
 \end{aligned}$$

Assuming that  $B + P \rightleftharpoons PB$  are in equilibrium, this results in

$$\text{Equation 11} \quad \frac{[B]}{K_{DB}} = \frac{[PB]}{[P]} .$$

Assuming that  $\frac{[P]_0}{2} \ll K_D$  ,

Equations 10 and 11 can be combined, yielding:

$$\text{Equation 12} \quad [C]_{1/2,0} = K_D * \left(1 + \frac{[B]}{K_{DB}}\right) + \frac{[P]_0}{2} .$$

However, in kinobeads competition experiments  $B + P \rightleftharpoons PB$  are not necessarily in equilibrium. Hence, using equations 6-8, equation 2 can then be expressed as:

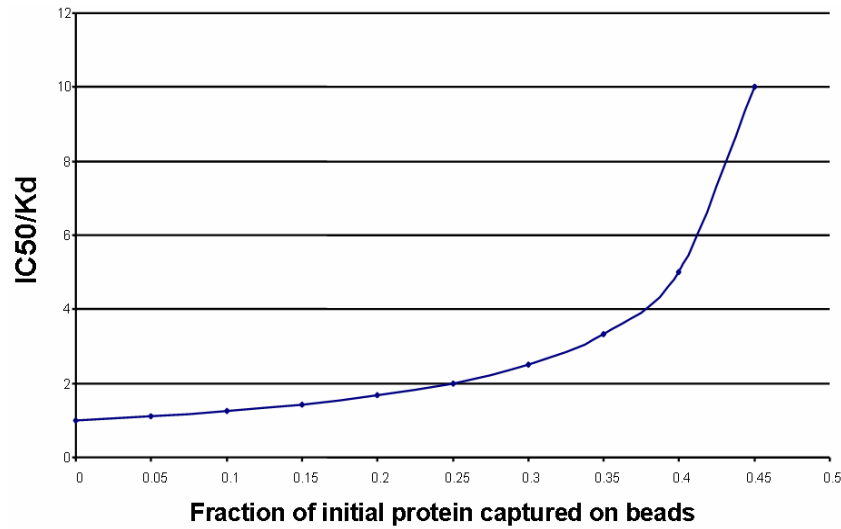
$$\text{Equation 13} \quad K_D = \frac{[C]_{1/2} * \left(\frac{[P]_0}{2} - [PB]\right)}{\frac{[P]_0}{2}} .$$

Or, using equation 9:

$$\text{Equation 14} \quad [C]_{1/2,0} = \frac{K_D}{1 - 2 \frac{[PB]}{[P]_0}} + \frac{[P]_0}{2}.$$

where PB is a function of time, until an equilibrium is reached.

Now, the influence of depletion (the fraction of a given protein bound to the capturing ligands) can be calculated. Based on equation 14, the graph below shows how the fraction of protein bound to the capturing ligand affects the deviation of the competition binding IC50 value from the Kd:



Thus, as long as the fraction of protein depleted is below 25%, the IC50 will be less than two times the Kd. As shown this is governed by an asymptotic function with a non-defined point at 50%. Thus, in regions > 40% depletion one is unlikely to measure any competition.

Since

$$\text{Equation 15} \quad \frac{d([PB])}{dt} = k_{on} * [P] * [B] ,$$

the rate of protein binding to the capturing ligands on the beads is a function of the capturing ligand concentration, the protein concentration and time. As noted, the influence of IC50/Kd can be minimized by using a low concentration of capturing ligands and/or a ligand with low affinity. As long as the initial protein concentration is below Kd, using a lower protein concentration is not favorable since in equation 14, the ratio of concentration of protein on beads to initial protein concentration is the relevant term.

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## Supplementary Data

### A quantitative chemical proteomics approach reveals novel modes of action of clinical ABL kinase inhibitors

Marcus Bantscheff<sup>1,3</sup>, Dirk Eberhard<sup>1,3</sup>, Yann Abraham<sup>1</sup>, Sonja Bastuck<sup>1</sup>, Markus Boesche<sup>1</sup>, Scott Hobson<sup>1</sup>, Toby Mathieson<sup>1</sup>, Jessica Perrin<sup>1</sup>, Manfred Raida<sup>1</sup>, Christina Rau<sup>1</sup>, Valérie Reader<sup>2</sup>, Gavain Sweetman<sup>1</sup>, Andreas Bauer<sup>1</sup>, Tewis Bouwmeester<sup>1</sup>, Carsten Hopf<sup>1</sup>, Ulrich Kruse<sup>1</sup>, Gitte Neubauer<sup>1</sup>, Nigel Ramsden<sup>2</sup>, Jens Rick<sup>1</sup>, Bernhard Kuster<sup>1\*</sup> & Gerard Drewes<sup>1\*</sup>

<sup>1</sup> Cellzome AG, Meyerhofstrasse 1, D-69117 Heidelberg, Germany

<sup>2</sup> Cellzome UK Ltd., Chesterford Research Park, Cambridge CB10 1XL, United Kingdom

<sup>3</sup> These authors contributed equally to this work

\*Correspondence: G.D. (gerard.drewes@cellzome.com) or B.K. (bernhard.kuster@cellzome.com)

#### **Details of peptide identifications**

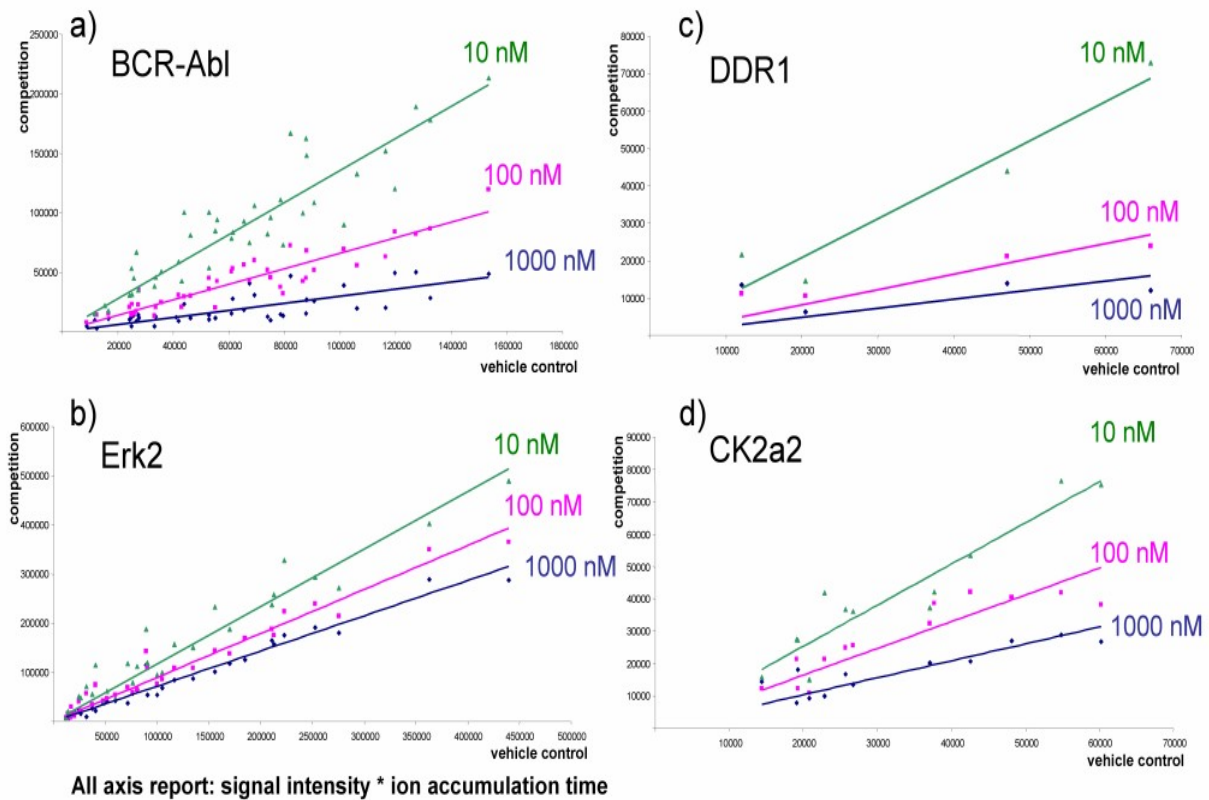
The individual experiments represented in **Figure 1** and **Supplementary Figure 1** online, and **Figure 3b** and **3c**, are listed in **Supplementary Table 9** online. In addition, the peptide identification data collected in each individual experiment are listed in **Supplementary Tables 10** (for **Fig. 1** and **Supplementary Fig. 1**) and **11** online (for **Fig. 3b** and **Fig. 3c**).

In **Supplementary Table 10** online, the total number of times a spectrum with the given peptide sequence was matched to a protein with the listed accession number is shown along with the maximum mascot ions score. ‘Spectrum count’ refers to the number of acquired MS/MS spectra matching to the peptide sequence given.

**Supplementary Table 11** online contains all peptides obtained and quantified for the data in **Figures 3b** and **3c**. Only data from peptides matching unambiguously to a single protein were used in quantification. ‘Intensity values’ 114, 115, 116, 117 refer to the iTRAQ reporter ion intensities measured in MS/MS spectra. ‘Area values’ 114, 115, 116, 117 refer to the respective iTRAQ reporter ion intensities measured in MS/MS spectra multiplied with the ion accumulation time to generate a value that is proportional to the number of reporter ions present in the ion trap.

### Quantification of peptides and proteins

For protein quantification, we chose the approach illustrated in **Supplementary Figure 6**. Essentially it takes the form of: a) plotting the iTRAQ areas for each peptide of the three compound concentrations against the vehicle control in a 2D plot (intensity multiplied by the ion accumulation time to achieve a value directly proportional to the number of ions individual quantification values are based on) and then b) calculating the fold change using a two-sided linear regression analysis (to account for the fact that weak spectra may distort the true ratios). The slope of the trend line is a measure for the determined fold-change. Note that the slope of each trend line subsequently provides one data point for a dose response curve. Assembly of 6 point or 9 point dose response curves is achieved by performing 2 (3) separate iTRAQ experiments with one compound concentration in common which provides a means to normalize the 2 (3) separate data sets.



**Supplementary Figure 6:** Examples for linear regression analysis for four kinases identified and quantified in kinobeads competition experiments using imatinib. Diamonds, squares and triangles represent quantitative values for individual peptides at three different Imatinib concentrations. Trend lines indicate results of the two-sided linear regression analysis.

### Validation of phospho-peptide identifications

The data presented in this paper includes the identification of several hundred phosphorylated peptides. Because of the sheer number of spectra matching to phosphorylated peptides, manual verification proved to be impractical. Other than the spectra included at the end of this supplement, we have not manually verified the phosphorylation sites listed in **Supplementary Table 6**. As an alternative, we sought to estimate the accuracy of phospho-peptide identification by a combination of i) use of a combined IPI and decoy protein sequence database for peptide identification<sup>1, 2</sup> and ii) replicate analysis of 24 kinobeads experiments for which we also enriched for phospho-

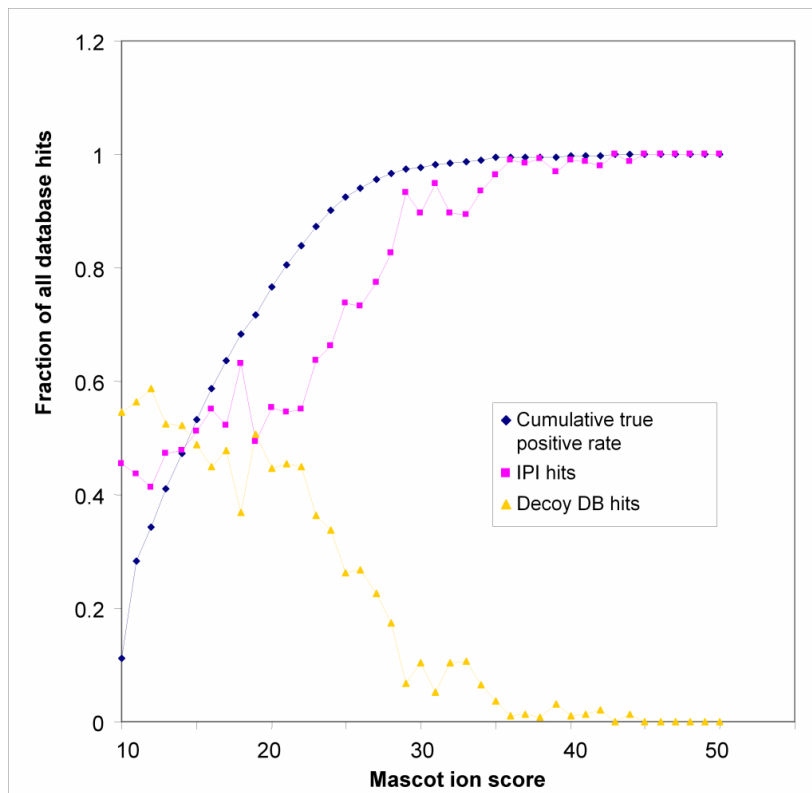
peptides using IMAC. The steps and results of the approach are detailed below. In summary, the phosphorylation data presented in this study conforms to a 97% identification confidence criterion which requires a Mascot ion score of at least 31 for any particular identification *OR* identification of any particular phospho-peptide in 12 out of 24 experiments.

**Data preparation:** The data from the IMAC analysis of kinobeads experiments was initially filtered to contain only those phosphorylated peptides (i.e. combinations of peptide sequence and modification assignments) that were assigned to proteins with a Mascot total score of >20. All other peptides/proteins were categorically rejected. In addition, for each spectrum, only the highest scoring protein match was considered (bold peptide definition of Mascot) and any combination of peptide sequence and modification had to represent the best spectrum to sequence match (rank1 definition of Mascot) in at least one of the 24 experiments. All other data not conforming to these criteria were removed. The remaining data constitutes more than 29.000 different combinations of protein accession number, peptide sequence and modification assignment. 14,300 of these were matched to IPI database entries and 12.700 to decoy data base entries indicating that at this stage, no confidence could be assigned to any particular phospho-peptide.

**Confidence assignment using Mascot ion score:** In a first step, we evaluated the influence of the Mascot ion score on the distribution of phospho-peptide assignments to the IPI and decoy database (**Supplementary Figure 7**). If a particular phospho-peptide assignment was found more than once, the highest Mascot ion score was used for this analysis. About one third of all phospho-peptide assignments had peptide ion scores of 10 or less and for those the number of matches to the decoy database exceeded that of the IPI data base, indicating that these assignments were not significant. As one might expect, the significance of phospho-peptide assignments increases strongly with increasing Mascot ion score and for Mascot ion scores of 45 and above, there were 1054 different



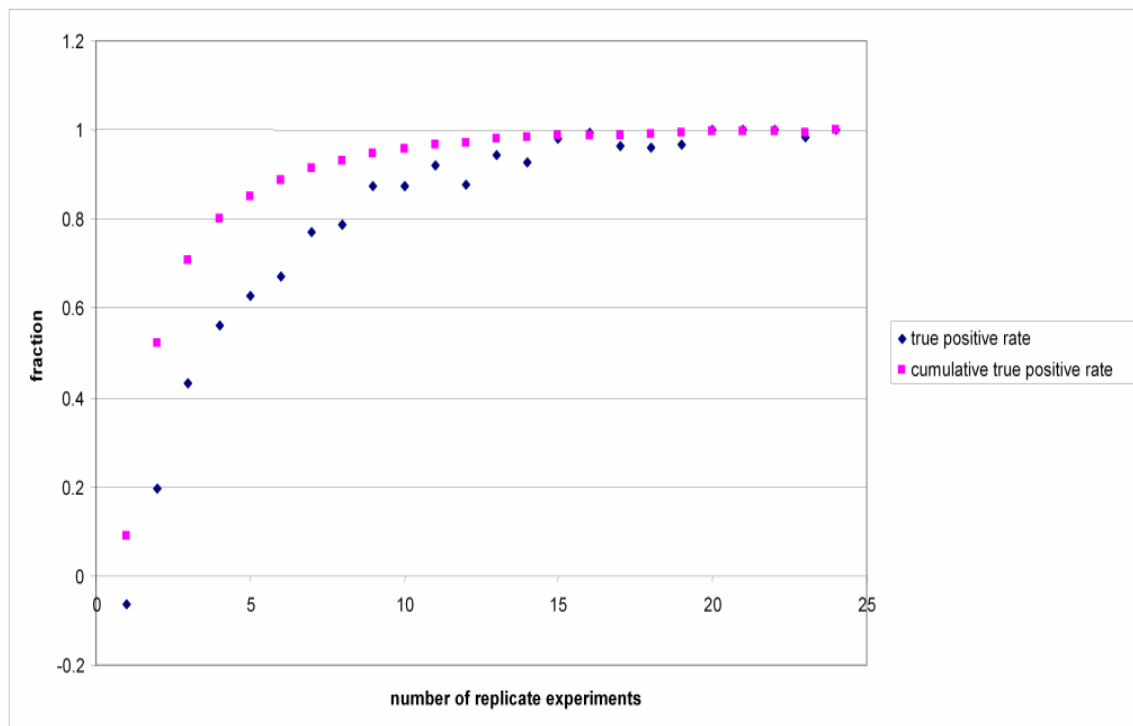
assignments in the IPI database but not a single match to the decoy data base. Given that the number of false positive assignments in the IPI database should be equal to that of the decoy data base, a true positive rate can be calculated for each Mascot ion score by subtracting the number of assignments to the decoy data base from the number of assignments to the IPI data base and dividing that by the number of assignments to the IPI data base. For the purpose of this study, we required a 97% confidence threshold for all reported phospho-peptides which was satisfied by Mascot ion scores of 29 or higher.



**Supplementary Figure 7:** True positive rate of phospho-peptide identification as a function of Mascot ion score.

Confidence assignment using replicate analysis: Second we investigated, if phospho-peptide assignments that were made repeatedly across the 24 individual IMAC experiments performed in this study provide higher confidence than those that were found only once. In fact, most phospho-peptide assignments were made only in one or

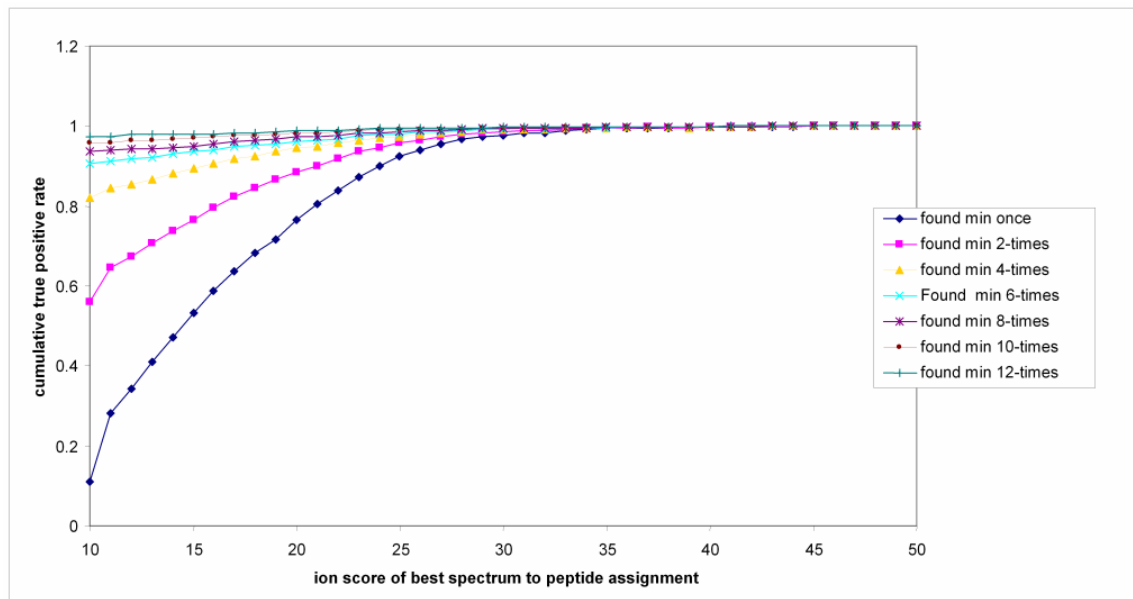
two experiments and the numbers of assignments to the IPI and decoy databases were similar indicating a low confidence level (data not shown). In contrast, the 182 phospho-peptide assignments present in all 24 experiments all matched to the IPI database and produced no hit in the decoy database indicating a very high level of confidence. A cumulative true positive rate of >97% was achieved for phospho-peptide when identified in at least 12 out of the 24 experiments (**Supplementary Figure 8**).



**Supplementary Figure 8:** True positive rate of phospho-peptide identification as a function of replicate analysis.

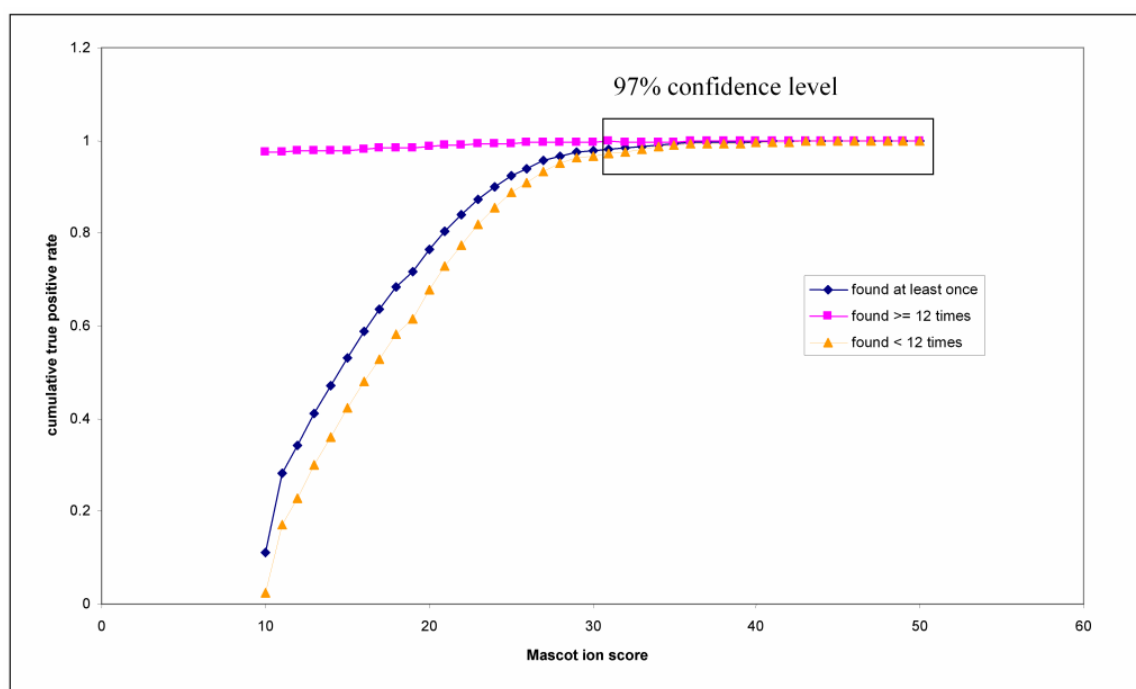
Combined phosphorylation confidence criterion: As shown above, Mascot ion score and reproducibility of identification both strongly discriminate against random phosphorylation assignments. We next analyzed how the two measures correlate. As can be seen in **Supplementary Figure 9**, the true positive rates based on Mascot ion scores are different for assignments made consistently compared to those found only sporadically and the dependency of true positive rate on Mascot peptide score decreases

drastically with the number of replicates in which a particular phospho-peptide was identified. To reach 97% confidence in phospho-peptide assignments, we selected all phospho-peptide assignments that were made in at least half of the 24 experiments.



**Supplementary Figure 9:** Cumulative true positive rate of phospho-peptide identification as a function of Mascot ion score and number of times a phospho-peptide has been identified in a set of 24 experiments.

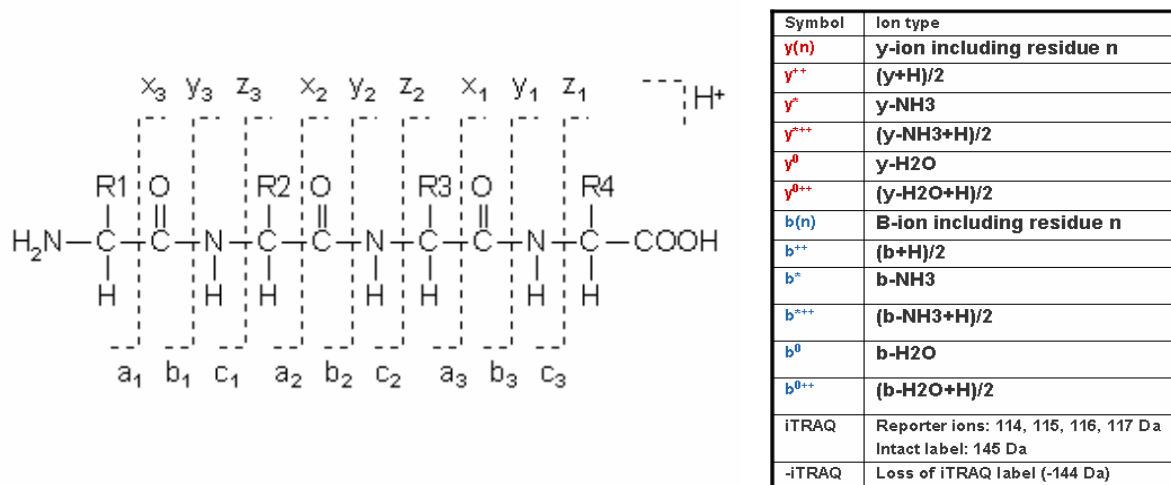
These assignments were then subtracted from the data and the remaining data was again analyzed for the dependency of true positive assignments on the Mascot ion score (**Supplementary Figure 10**). According to this plot, an ion score of at least 31 is required to fulfill the >97% confidence level criterion. Taken together, the combined confidence criterion requires phospho-peptide assignments with a Mascot ion score of at least 31 OR identification in 12 out of 24 experiments. When applying this criterion to the data generated in this study, the net result comprises 482 distinct phosphorylation sites (**Supplementary Table 7**).



**Supplementary Figure 10:** Cumulative true positive rate of phospho-peptide identification as a function of Mascot ion score and number of times a phospho-peptide has been identified in a set of 24 experiments.

## Phosphopeptide Spectra

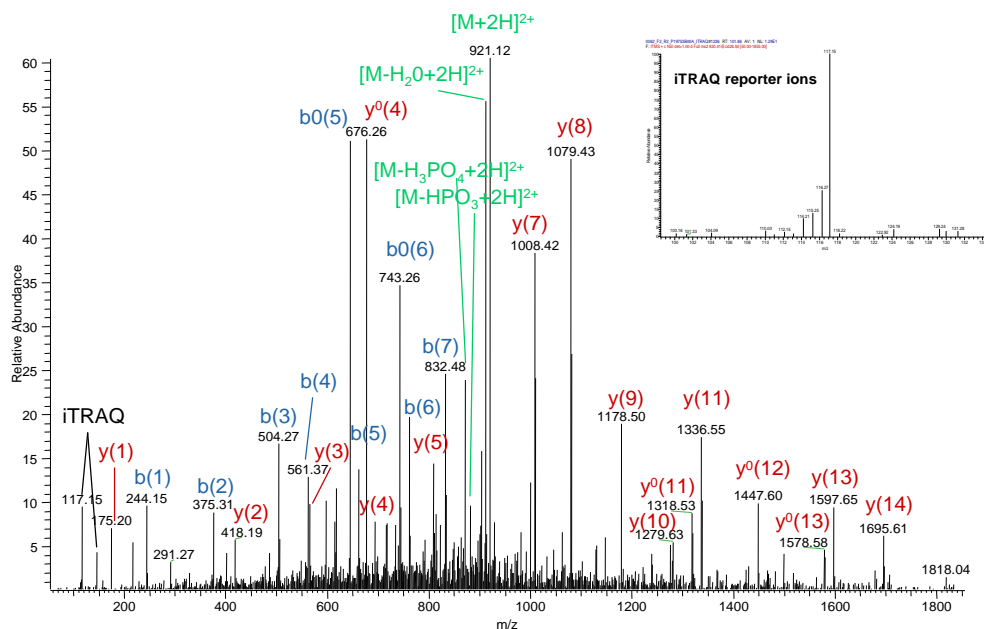
In low energy CID (i.e. collision-induced dissociation e.g. in a linear ion trap) a peptide carrying a positive charge fragments mainly along its backbone, generating predominantly *a*, *b* and *y* ions. In addition, peaks are observed for ions which have lost ammonia (-17 Da) denoted *a*<sup>\*</sup>, *b*<sup>\*</sup> and *y*<sup>\*</sup> or water (-18 Da) denoted *a*<sup>°</sup>, *b*<sup>°</sup> and *y*<sup>°</sup>. For phosphorylated peptides the loss of phosphorous acid (-80 Da) and phosphoric acid (-98 Da) are frequently observed. The accepted nomenclature for fragment ions was first proposed by Roepstorff and Fohlman<sup>3</sup> and subsequently modified by Johnson *et. al.*<sup>4</sup>.



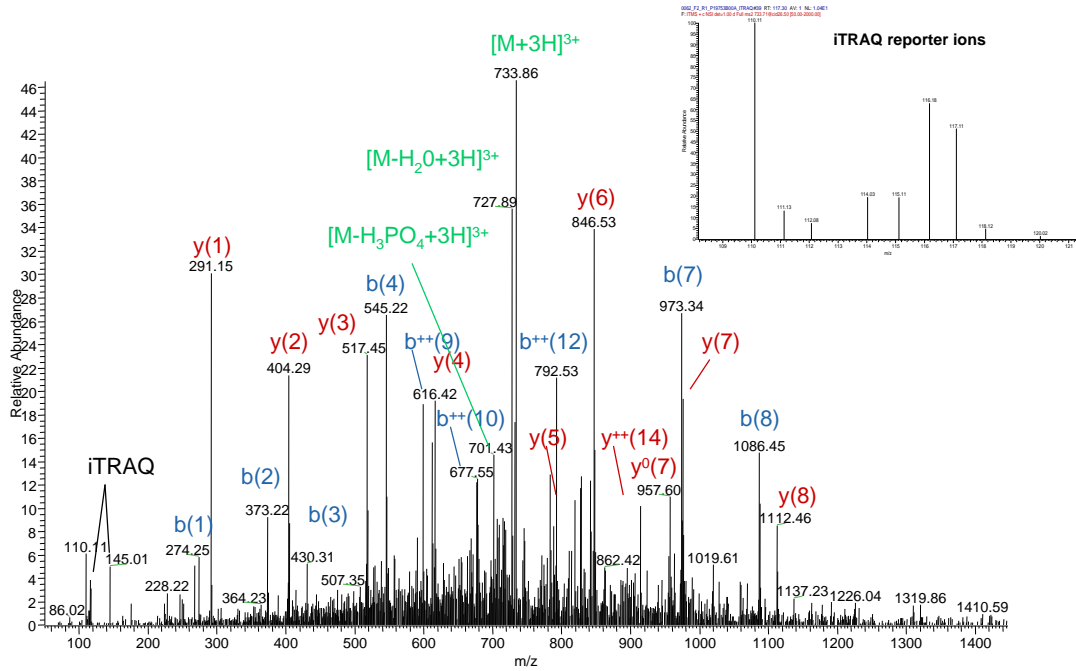
**Figure S11: Phosphorylation annotation: Fragment ion nomenclature**

Supplementary Figures S12-S32 show annotated spectra:

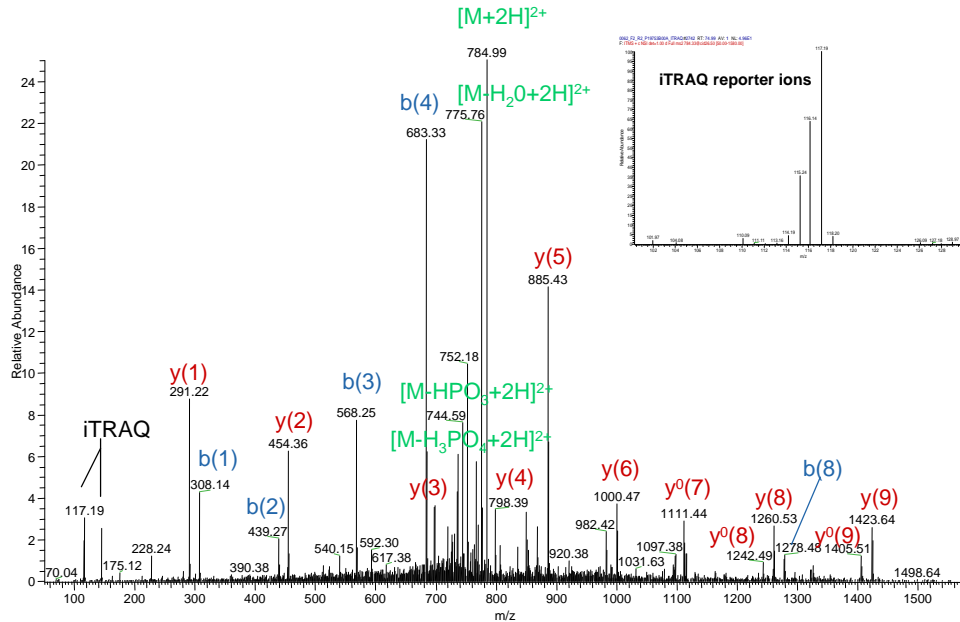
**Figure S12: VMEGTVAAGDEFpYR**  
TYROSINE-PROTEIN KINASE CSK.



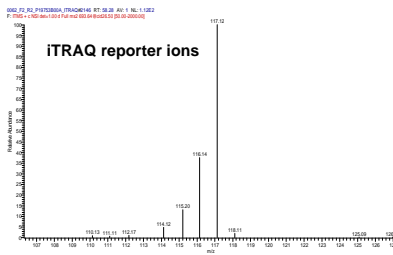
**Figure S13: EVGDpY<sup>6</sup>QLHETEVLK**  
 TYROSINE-PROTEIN KINASE JAK2



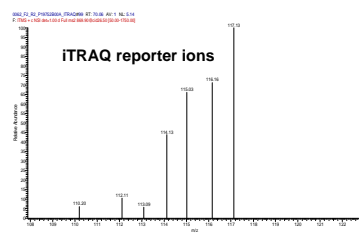
**Figure S14: YMEDSTpYYK**  
 SPLICE ISOFORM 1 OF FOCAL ADHESION KINASE 1



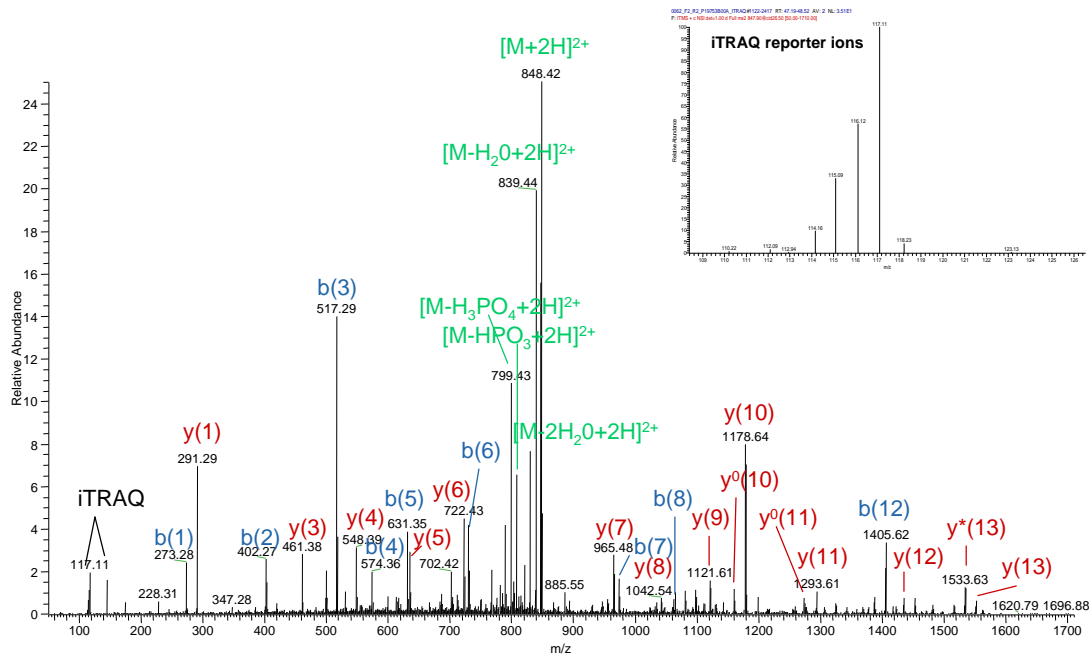
SPLICE ISOFORM 1 OF FOCAL ADHESION KINASE 1



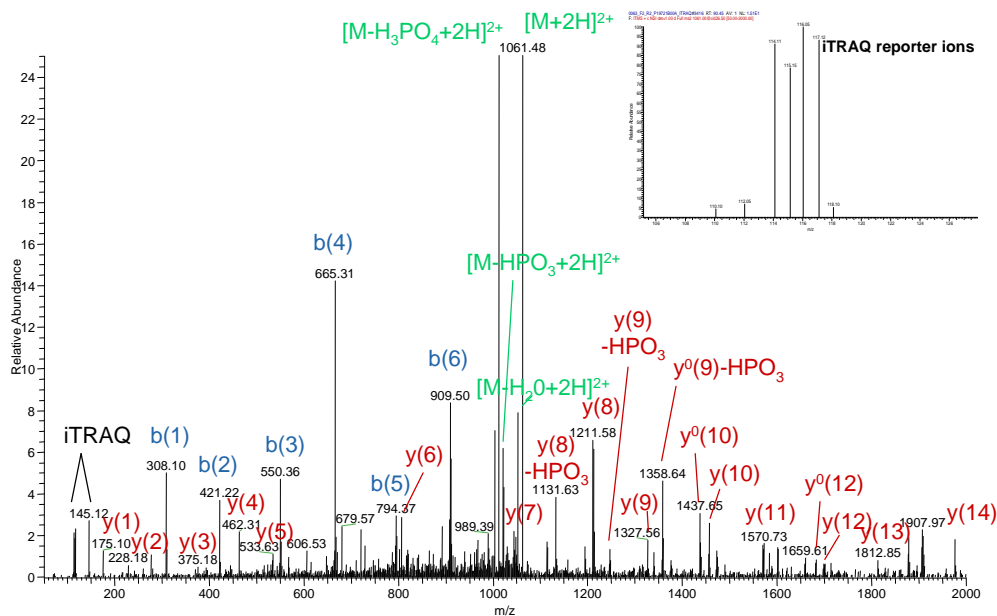
# PROTO-ONCOGENE TYROSINE-PROTEIN KINASE FER



**Figure S17: QEDGGVpYSSSGLK**  
PROTO-ONCOGENE TYROSINE-PROTEIN KINASE FER

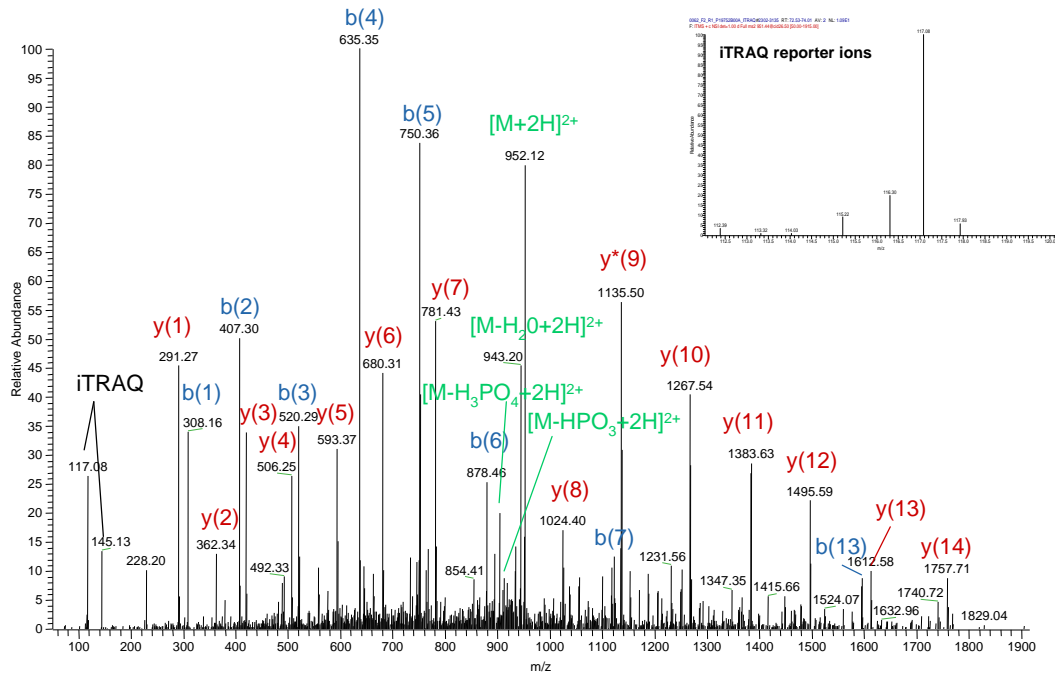


**Figure S18: YIEDEDpYYKASVTR**  
SPLICE ISOFORM 1 OF PROTEIN TYROSINE KINASE 2 BETA

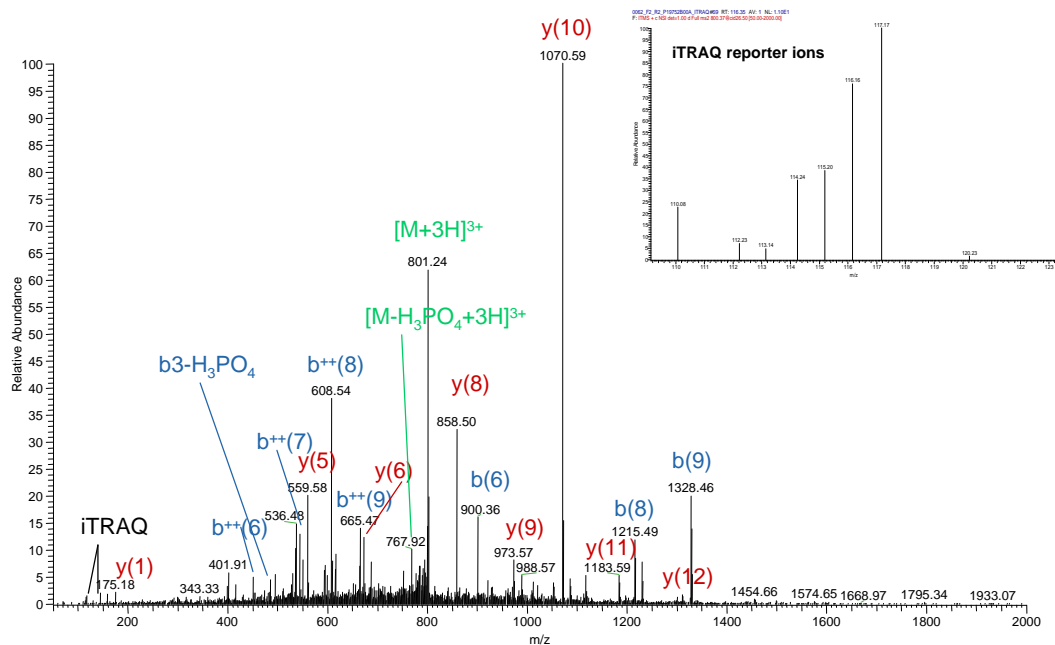




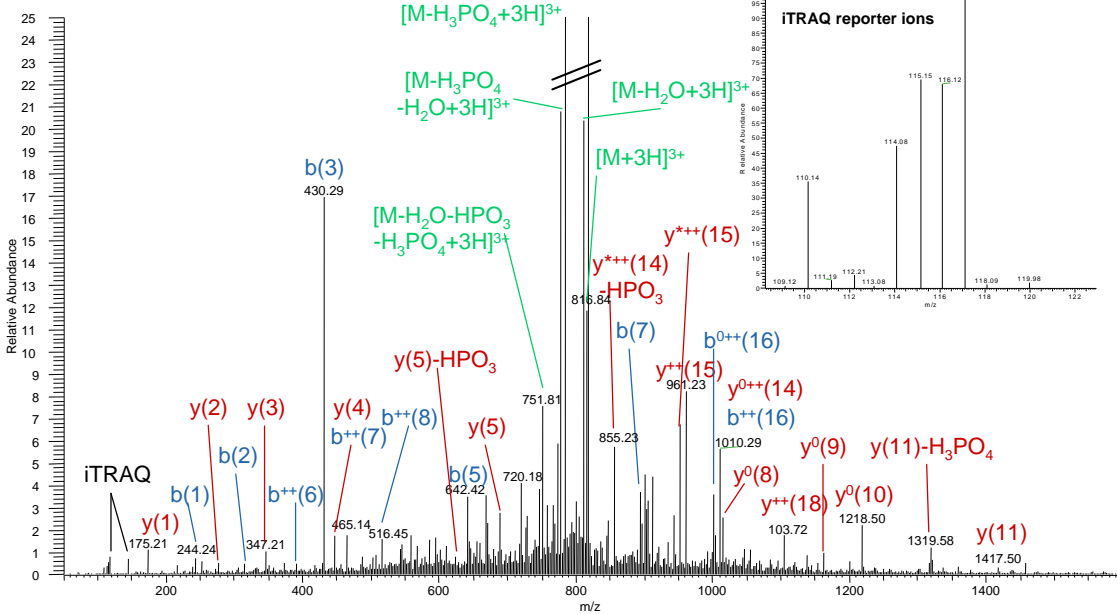
**Figure S19: YVLDDQpYTSSSGAK**  
 TYROSINE-PROTEIN KINASE TEC



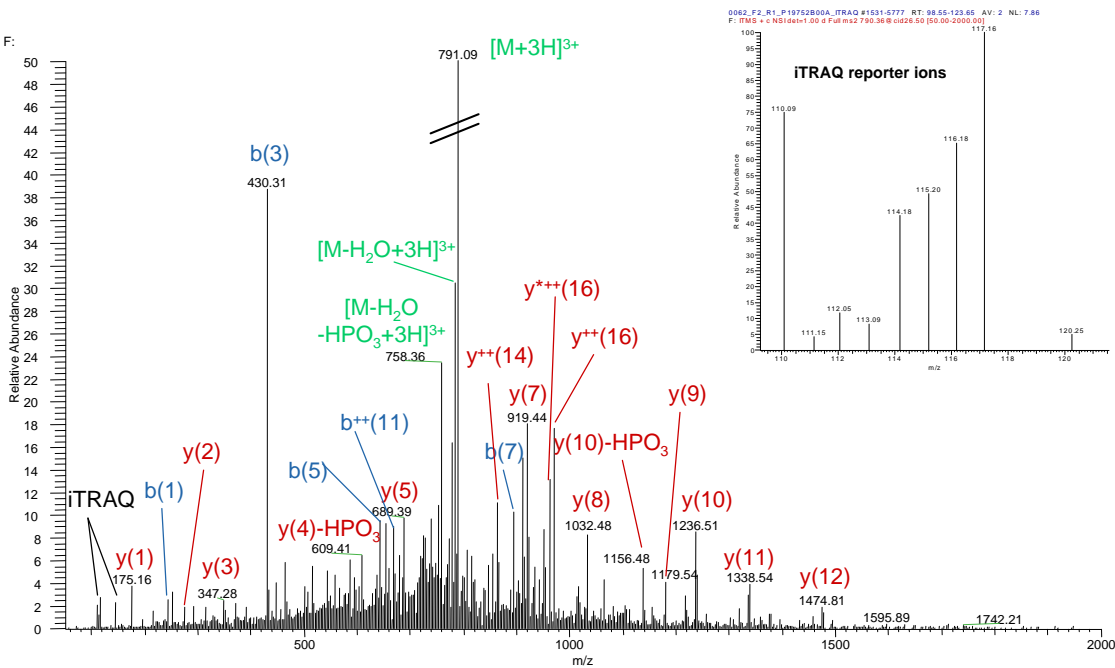
**Figure S20: RDpSSDDWEIPDGQITVGQR**  
 B-RAF PROTEIN



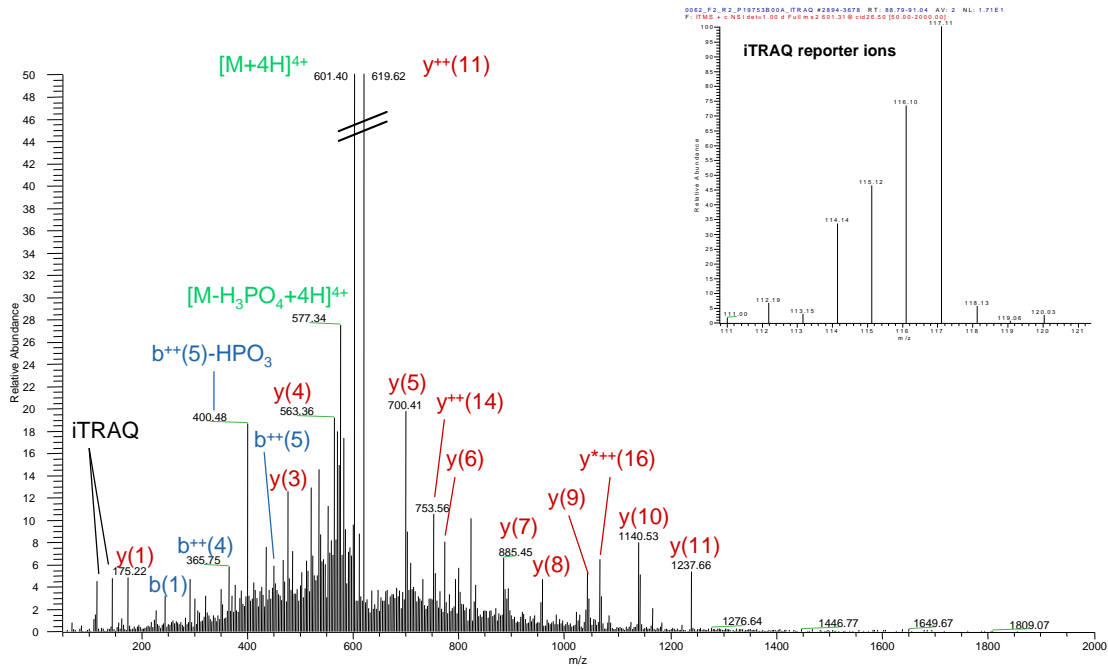
**VADPDHDHpTGFLTEpYVATR**  
MITOGEN-ACTIVATED PROTEIN KINASE 1



**VADPDHDHTGFLTEpYVATR**  
MITOGEN-ACTIVATED PROTEIN KINASE 1



**Figure S23:** TPKDpSPGIPPSANAHQLFR  
RIBOSOMAL PROTEIN S6 KINASE ALPHA 3



**Figure S24:** GFpSFVATGLMEDDGKPR  
RIBOSOMAL PROTEIN S6 KINASE ALPHA 1

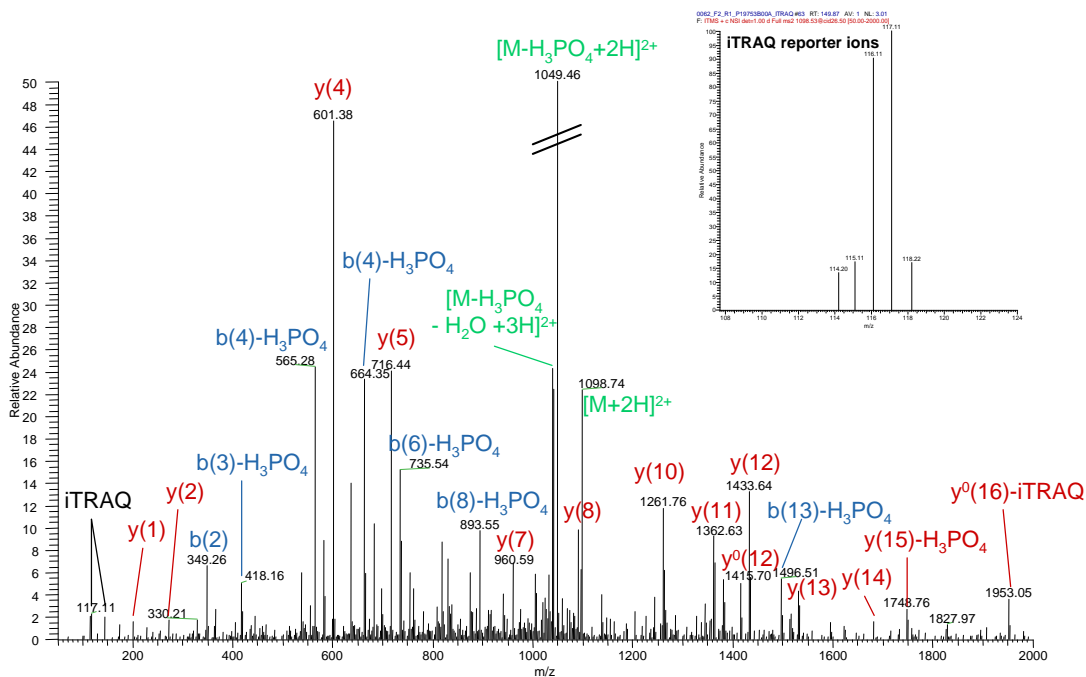


Figure S25: TPKDpSPGIPPSAGAHQLFR  
RIBOSOMAL PROTEIN S6 KINASE ALPHA 1

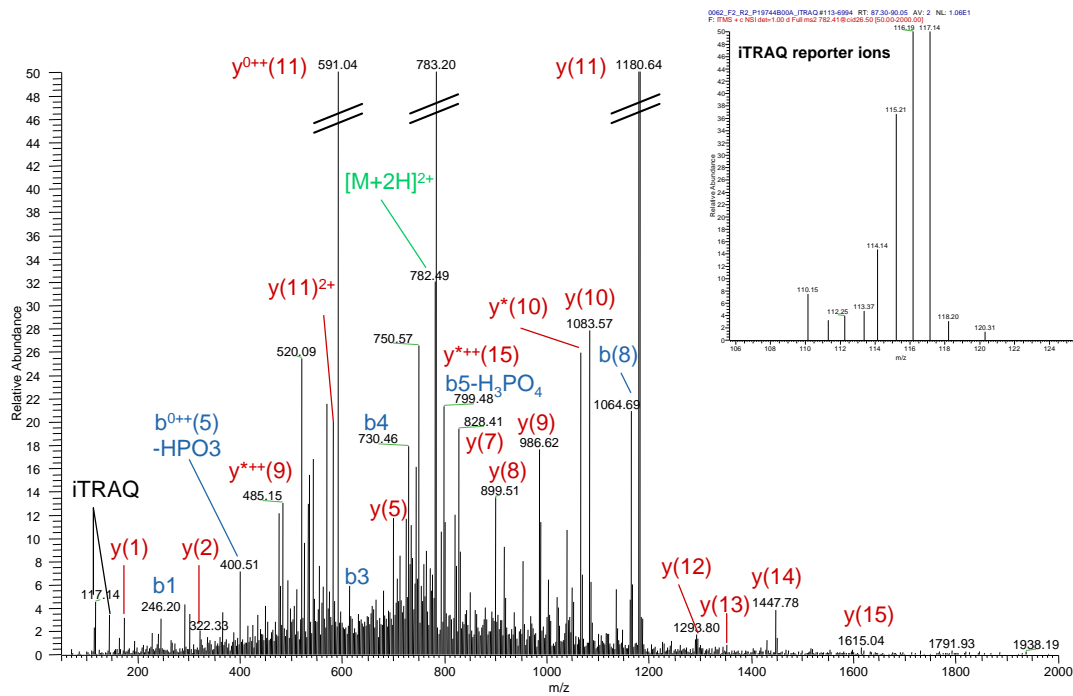


Figure S26: QTpSRTDCPADRLK  
SPLICE ISOFORM A OF MITOGEN-ACTIVATED PROTEIN KINASE  
KINASE KINASE 4.

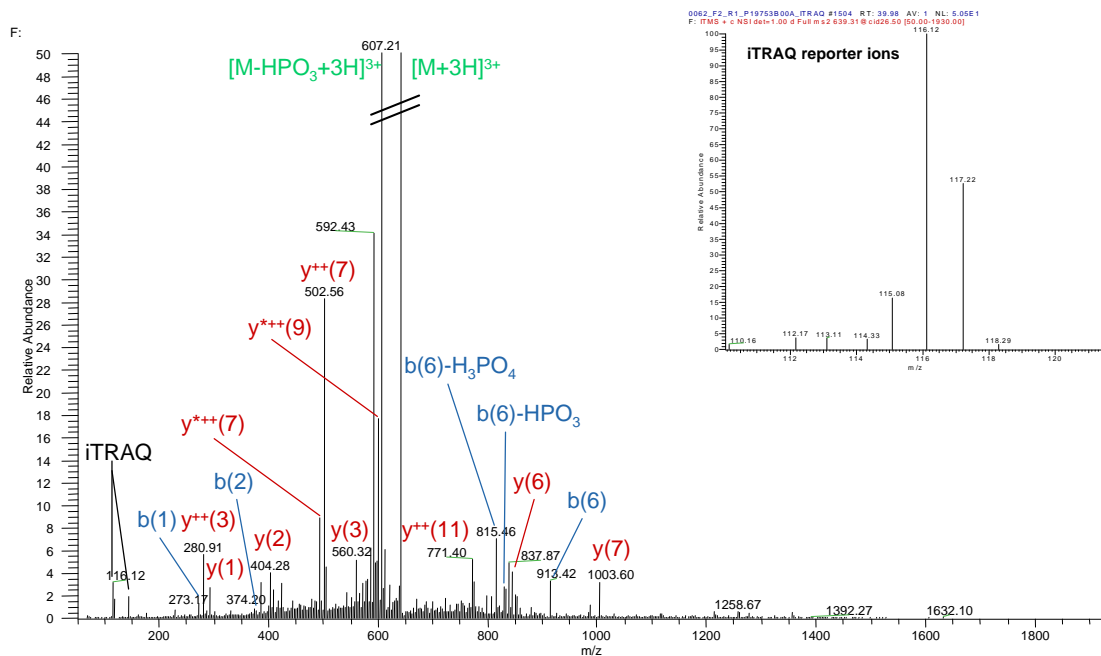


Figure S27: ADpSHEGEVAEGK  
SPLICE ISOFORM 1 OF DOCKING PROTEIN 1

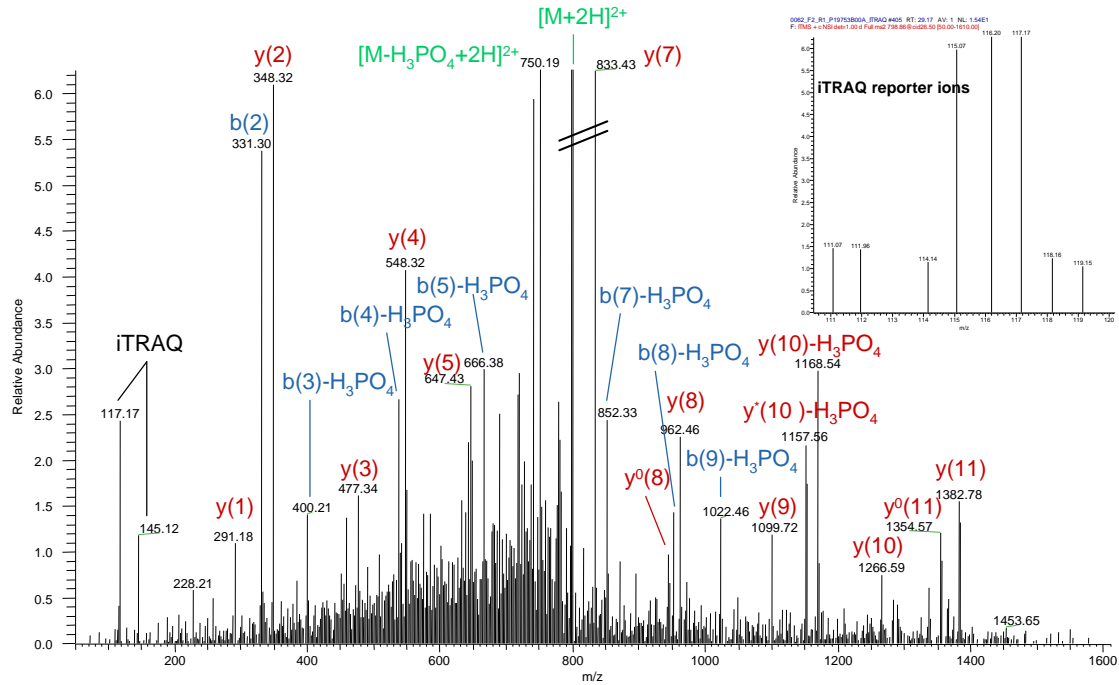


Figure S28: KKPLpYWDLYEHAQQQLLK  
SPLICE ISOFORM 1 OF DOCKING PROTEIN 1

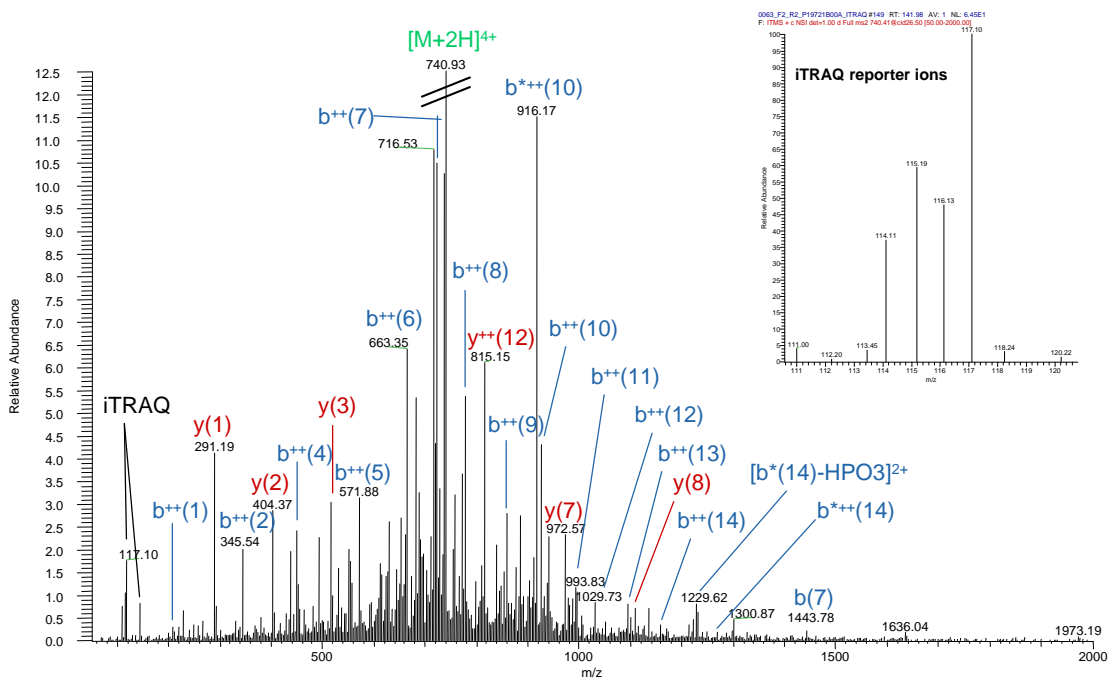


Figure S29: SHNSALpYSQVQK  
SPICE ISOFORM 1 OF DOCKING PROTEIN 1

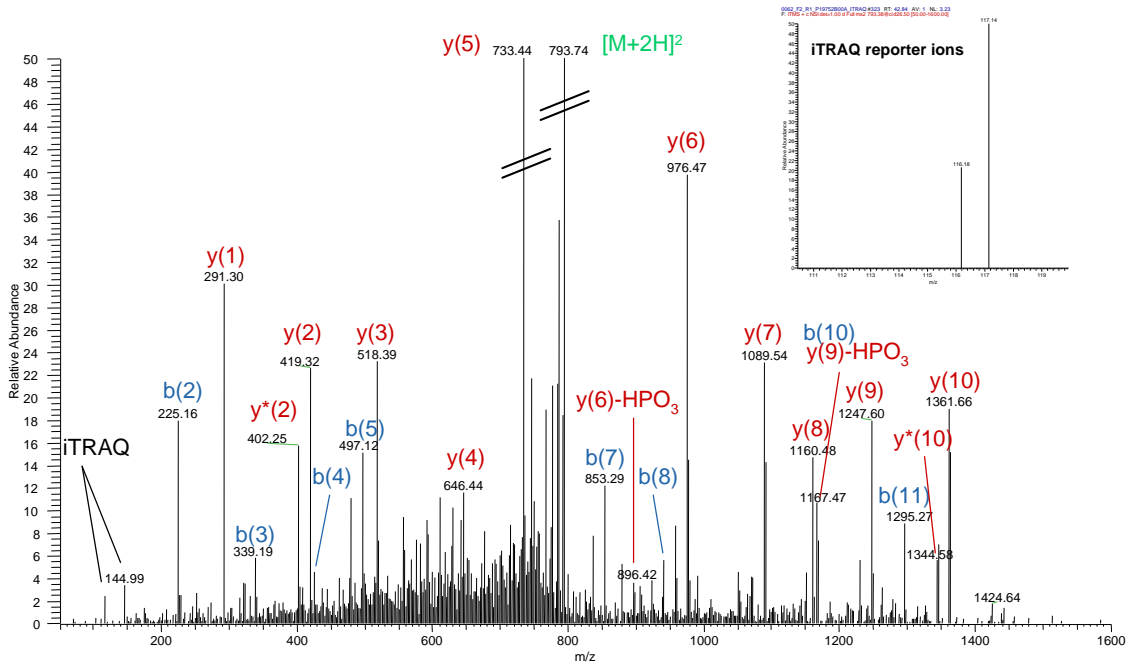


Figure S30: ENCAPLpYDDALFLR  
PROTEIN-TYROSINE PHOSPHATASE, NON-RECEPTOR TYPE 18

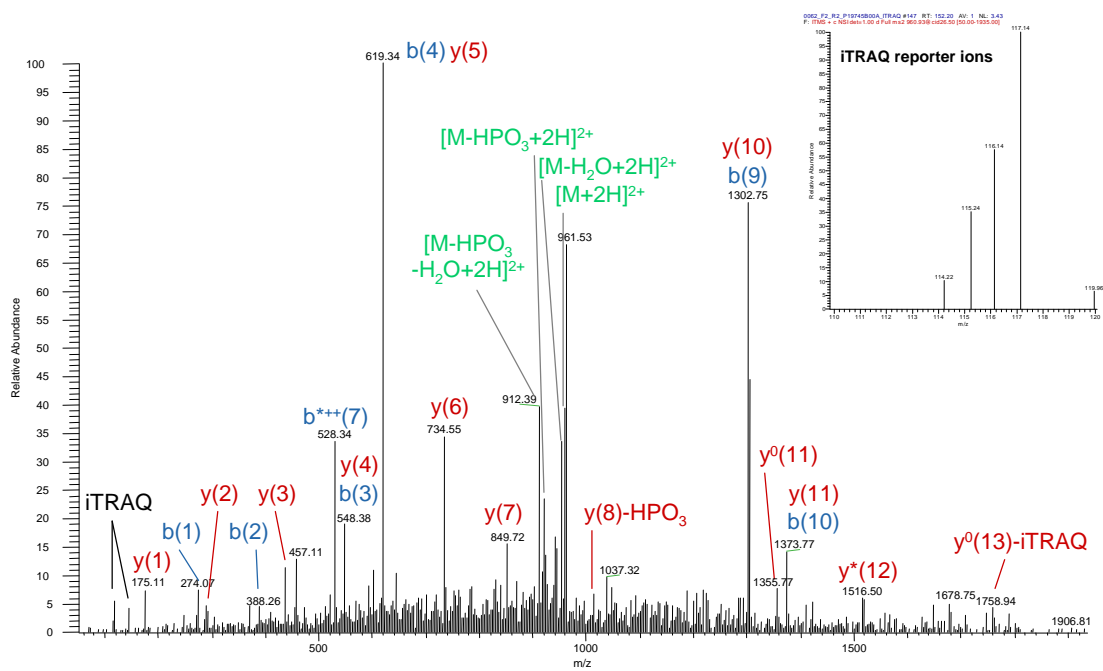


Figure S31: SAEELAPLpYSK

PROTEIN-TYROSINE PHOSPHATASE, NON-RECEPTOR TYPE 18



Figure S32: ElpYNTIR

SPLICE ISOFORM 1 OF P20936 RAS GTPASE-ACTIVATING PROTEIN 1.



## References

1. Beausoleil, S.A., Villen, J., Gerber, S.A., Rush, J., & Gygi, S.P. A probability-based approach for high-throughput protein phosphorylation analysis and site localization. *Nat. Biotechnol.* **24**, 1285-1292 (2006).
2. Elias, J.E. & Gygi, S.P. Target-decoy search strategy for increased confidence in large-scale protein identifications by mass spectrometry. *Nat. Methods* **4**, 207-214 (2007).
3. Roepstorff, P. & Fohlman, J. Proposal for a common nomenclature for sequence ions in mass spectra of peptides. *Biomed. Mass Spectrom.* **11**, 601 (1984).
4. Johnson, R.S., Martin, S.A., Biemann, K., Stults, J.T., & Watson, J.T. Novel fragmentation process of peptides by collision-induced decomposition in a tandem mass spectrometer: differentiation of leucine and isoleucine. *Anal. Chem.* **59**, 2621-2625 (1987).