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| STANDARD OPERATING PROCEDURE |
| |  |  | | --- | --- | | **Title: Reverse Response Curve Generation and Targeted Analysis of the CPTAC Study 9 Peptide Panel** | | |  |  | | **Version #: 1** | **Author: Broad Inst Proteomics Platform** | | **Date: June 30, 2016** | **BRD-004** | |

# Purpose

CPTAC Study 9-1, a 9 point calibration curve comprised of a mixture of 123 standard light peptides and and corresponding stable-isotope labeled internal standard (SIS) peptides (~750 total transitions) in a background mixture digested proteins from a bulk preparation of MARS-14 depleted human K2EDTA plasma (0.5 µg/µL) from a pool of healthy individuals will be quantitatively assayed by scheduled LC-MRM-MS.

# Scope

This procedure may be used to prepare a forward response curve in a background of plasma immunodepleted of the 14 most abundant plasma proteins.

# Responsibilities

It is the responsibility of person(s) performing this procedure to be familiar with laboratory safety procedures. The interpretation of results must be done by a person trained in the procedure and familiar with such interpretation.

# Equipment

1. Microcentrifuge
2. Quantiva TSQ Mass spectrometer (Thermo)
3. Easy NanoLC 1000 liquid chromatograph (Thermo)

# Materials

1. HPLC water
2. formic acid (Fluka, 56302)
3. acetonitrile

# Reagents

**Standards: Refer to Appendix 1 for Phosphopeptide Sequences**

1. Study 9-1 kit (refer to SOP “**CPTAC Study 9-1 SOP\_0831\_2011\_v14**” and Appendix 1 for a complete list of proteins, peptides, background matrix and sample preparation)
2. Michrom mix: 50 fmol/uL digest of 6 equimolar bovine proteins (Michrom Bioresources, #PTD/00001/63) in 3% acetonitrile/5% acetic acid [Note: this product is no longer commercially available]
3. Heavy-Only IS peptide mixture(800 fmol/uL)

# Procedure

1. **Preparation of Forward Response Curve (Refer to Table 1)**
   1. refer to SOP “**CPTAC Study 9-1 SOP\_0831\_2011\_v14**” for complete description of sample preparation and concentration levels used for this curve.
   2. Digested human depleted plasma spiked with 123 unlabeled synthetic peptides and 123 labeled IS peptides (Samples 9-1-B to 9-1-J)
      1. Depleted plasma diluted to a final concentration of 0.5 μg/µL after digestion
      2. 123 labeled IS peptides spiked at a concentration of 10 fmol/µL
      3. Four 25 µL aliquot of each spike level supplied for 4 singlicate curves
      4. 123 unlabeled synthetic peptides are spiked in at the following approximate concentrations:

Table 1. Forward Response Curve Concentrations in CPTAC Study 9.1

|  |  |
| --- | --- |
| Sample  (Study 9-1) | Spiked [12C/14N] peptide Concentration  (fmol/µL) |
| 9-1-J | 100.00 |
| 9-1-I | 23.71 |
| 9-1-H | 5.62 |
| 9-1-G | 1.33 |
| 9-1-F | 0.316 |
| 9-1-E | 0.075 |
| 9-1-D | 0.018 |
| 9-1-C | 0.004 |
| 9-1-B | 0.001 |

***Important Note:*** *Each of the 3 calibration curves will be completed before the next replicate curve is started. Specific naming includes the first blank (Sample A) is required.*

***For example:*** *9-1-A1 to 9-1-J1; 9-1-A2 to 9-1-J2; 9-1-A3 to 9-1-J3; 9-1-A4 to 9-1-J4*

1. **Reconstitution of samples for analysis by mass spectrometry**
   1. Samples in the kit were transferred to HPLC vials for LC-MRM-MS analysis
2. **NanoLC-MRM-MS analysis**
   1. set up the TSQ-Quantiva MS with Easy NanoLC1000 and the following:
      1. Q1 resolution 0.2
      2. Q3 resolution 0.7
      3. 1.5 min cycle time
      4. CID gas 1.5
      5. 0.075 x 100 mm PicoFrit Reprosil C18, 3 um, 200 Å pore size, (Dr. Maisch GmBH) PicoFrit column
      6. mobile phase A: 3% acetonitrile/0.1% formic acid, mobile phase B: 90% acetonitrile/0.1% formic acid
      7. flowrate: 300 nL/min
      8. column temperature: 50 oC
      9. gradient: 0 – 7% B in 3 min, 7 – 25%B in 27 min, 25 – 40%B in 4 min, 40 – 90%B in 3 min, hold 90%B for 4 min. (41 min total time)
      10. injection volume: 1 uL
   2. Prior to analysis, a mixture of H-SIS peptides was injected onto the Quantiva to generate a CE calibration equation for Skyline suitable for the Quantiva. This set values were used with and without further optimization. The transitions previously selected for CPTAC study 9.1 were used with additional optimization or selection. See Appendix 2 for scheduled MRM method used to acquire the data.
3. **Run order**
   1. Samples are injected by order of increasing concentration, point 1 to point 8, one complete curve followed by the next replicate, with blanks injections and carryover injections performed between each curve as directed in the SOP **CPTAC Study 9-1 SOP\_0831\_2011\_v14**” and stated above for Table 1. See Table 2 for the complete Run Order.

Table 2. Injection run order of replicate curves

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Curve 1 | |  | Curve 2 | |  | Curve 3 | |
| inj # | Sample |  | inj # | Sample |  | inj # | Sample |
| 1 | michrom\_50fmol\_01 |  | 26 | michrom\_50fmol\_03 |  | 51 | michrom\_50fmol\_05 |
| 2 | blank\_01 |  | 27 | blank\_05 |  | 52 | blank\_09 |
| 3 | blank\_02 |  | 28 | blank\_06 |  | 53 | blank\_10 |
| 4 | blank\_03 |  | 29 | blank\_07 |  | 54 | blank\_11 |
| 5 | 9-1-A\_0fmol\_01\_01 |  | 30 | 9-1-A\_0fmol\_02\_01 |  | 55 | 9-1-A\_0fmol\_03\_01 |
| 6 | 9-1-A\_0fmol\_01\_02 |  | 31 | 9-1-A\_0fmol\_02\_02 |  | 56 | 9-1-A\_0fmol\_03\_02 |
| 7 | 9-1-A\_0fmol\_01\_03 |  | 32 | 9-1-A\_0fmol\_02\_03 |  | 57 | 9-1-A\_0fmol\_03\_03 |
| 8 | 9-1-A\_0fmol\_01\_04 |  | 33 | 9-1-A\_0fmol\_02\_04 |  | 58 | 9-1-A\_0fmol\_03\_04 |
| 9 | 9-1-A\_0fmol\_01\_05 |  | 34 | 9-1-A\_0fmol\_02\_05 |  | 59 | 9-1-A\_0fmol\_03\_05 |
| 10 | 9-1-B\_0001fmol\_01\_01 |  | 35 | 9-1-B\_0001fmol\_02\_01 |  | 60 | 9-1-B\_0001fmol\_03\_01 |
| 11 | 9-1-C\_0004fmol\_01\_01 |  | 36 | 9-1-C\_0004fmol\_02\_01 |  | 61 | 9-1-C\_0004fmol\_03\_01 |
| 12 | 9-1-D\_0018fmol\_01\_01 |  | 37 | 9-1-D\_0018fmol\_02\_01 |  | 62 | 9-1-D\_0018fmol\_03\_01 |
| 13 | 9-1-E\_0075fmol\_01\_01 |  | 38 | 9-1-E\_0075fmol\_02\_01 |  | 63 | 9-1-E\_0075fmol\_03\_01 |
| 14 | 9-1-F\_0316fmol\_01\_01 |  | 39 | 9-1-F\_0316fmol\_02\_01 |  | 64 | 9-1-F\_0316fmol\_03\_01 |
| 15 | 9-1-G\_133fmol\_01\_01 |  | 40 | 9-1-G\_133fmol\_02\_01 |  | 65 | 9-1-G\_133fmol\_03\_01 |
| 16 | 9-1-H\_562fmol\_01\_01 |  | 41 | 9-1-H\_562fmol\_02\_01 |  | 66 | 9-1-H\_562fmol\_03\_01 |
| 17 | 9-1-I\_2371fmol\_01\_01 |  | 42 | 9-1-I\_2371fmol\_02\_01 |  | 67 | 9-1-I\_2371fmol\_03\_01 |
| 18 | 9-1-J\_10000fmol\_01\_01 |  | 43 | 9-1-J\_10000fmol\_02\_01 |  | 68 | 9-1-J\_10000fmol\_03\_01 |
| 19 | carryover\_blank\_01 |  | 44 | carryover\_blank\_03 |  | 69 | carryover\_blank\_05 |
| 20 | carryover\_blank\_02 |  | 45 | carryover\_blank\_04 |  | 70 | carryover\_blank\_06 |
| 21 | wash\_01 |  | 46 | wash\_04 |  | 71 | wash\_07 |
| 22 | wash\_02 |  | 47 | wash\_05 |  | 72 | wash\_08 |
| 23 | wash\_03 |  | 48 | wash\_06 |  | 73 | wash\_09 |
| 24 | blank\_04 |  | 49 | blank\_08 |  | 74 | blank\_12 |
| 25 | michrom\_50fmol\_02 |  | 50 | michrom\_50fmol\_04 |  | 75 | michrom\_50fmol\_06 |

1. **Data Analysis**
   1. Raw files were imported into Skyline.
   2. Extracted Ion chromatograms (XIC) of all transition ions were integrated using a Skyline document (Skyline daily version 2.6. <https://brendanx-uw1.gs.washington.edu/labkey/project/home/software/Skyline/begin.view>).
   3. Integrated peaks were manually inspected to confirm proper integration and detection of the transitions for the corresponding light and heavy peptides.

# Referenced Documents

[Large-Scale Interlaboratory Study to Develop, Analytically Validate and Apply Highly Multiplexed, Quantitative Peptide Assays to Measure Cancer-Relevant Proteins in Plasma.](http://www.ncbi.nlm.nih.gov/pubmed/25693799)

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Mol Cell Proteomics. 2015 Sep;14(9):2357-74. doi: 10.1074/mcp.M114.047050. Epub 2015 Feb 18.

PMID: 25693799

**Appendix 1. Proteins, Peptides and Pathways**

|  |  |  |
| --- | --- | --- |
| Protein Targets | Peptide Sequences | Biological Pathway |
| sp|P09972|ALDOC\_HUMAN *Fructose-bisphosphate aldolase C OS=Homo sapiens GN=ALDOC PE=1 SV=2* | R.ALQASALNAWR.G [304, 314] | Glycolysis |
| sp|P09972|ALDOC\_HUMAN *Fructose-bisphosphate aldolase C OS=Homo sapiens GN=ALDOC PE=1 SV=2* | R.AEVNGLAAQGK.Y [331, 341] | Glycolysis |
| sp|P09972|ALDOC\_HUMAN *Fructose-bisphosphate aldolase C OS=Homo sapiens GN=ALDOC PE=1 SV=2* | K.ELSDIALR.I [14, 21] | Glycolysis |
| sp|P09972|ALDOC\_HUMAN *Fructose-bisphosphate aldolase C OS=Homo sapiens GN=ALDOC PE=1 SV=2* | R.TPSALAILENANVLAR.Y [157, 172] | Glycolysis |
| sp|P09972|ALDOC\_HUMAN *Fructose-bisphosphate aldolase C OS=Homo sapiens GN=ALDOC PE=1 SV=2* | R.QVLFSADDR.V [60, 68] | Glycolysis |
| sp|P04083|ANXA1\_HUMAN *Annexin A1 OS=Homo sapiens GN=ANXA1 PE=1 SV=2* | R.ALYEAGER.R [204, 211] | cell differentiation, receptor signal pathway, regulation, homeostasis, inflammatory response |
| sp|P04083|ANXA1\_HUMAN *Annexin A1 OS=Homo sapiens GN=ANXA1 PE=1 SV=2* | K.GTDVNVFNTILTTR.S [214, 227] | cell differentiation, receptor signal pathway, regulation, homeostasis, inflammatory response |
| sp|P04083|ANXA1\_HUMAN *Annexin A1 OS=Homo sapiens GN=ANXA1 PE=1 SV=2* | K.AAYLQETGKPLDETLK.K [81, 96] | cell differentiation, receptor signal pathway, regulation, homeostasis, inflammatory response |
| sp|P04083|ANXA1\_HUMAN *Annexin A1 OS=Homo sapiens GN=ANXA1 PE=1 SV=2* | K.TPAQFDADELR.A [113, 123] | cell differentiation, receptor signal pathway, regulation, homeostasis, inflammatory response |
| sp|P09525|ANXA4\_HUMAN *Annexin A4 OS=Homo sapiens GN=ANXA4 PE=1 SV=4* | R.VLVSLSAGGR.D [150, 159] | cell differentiation, negative regulation, signal transduction |
| sp|P09525|ANXA4\_HUMAN *Annexin A4 OS=Homo sapiens GN=ANXA4 PE=1 SV=4* | K.GLGTDEDAIISVLAYR.N [28, 43] | cell differentiation, negative regulation, signal transduction |
| sp|P09525|ANXA4\_HUMAN *Annexin A4 OS=Homo sapiens GN=ANXA4 PE=1 SV=4* | R.DEGNYLDDALVR.Q [160, 171] | cell differentiation, negative regulation, signal transduction |
| sp|P09525|ANXA4\_HUMAN *Annexin A4 OS=Homo sapiens GN=ANXA4 PE=1 SV=4* | K.GAGTDEGCLIEILASR.T [100, 115] | cell differentiation, negative regulation, signal transduction |
| sp|P20073|ANXA7\_HUMAN *Annexin A7 OS=Homo sapiens GN=ANXA7 PE=1 SV=3* | R.LYQAGEGR.L [348, 355] | autophagy, cell proliferation, hemostasis, cell differentiation |
| sp|P20073|ANXA7\_HUMAN *Annexin A7 OS=Homo sapiens GN=ANXA7 PE=1 SV=3* | R.SEIDLVQIK.Q [446, 454] | autophagy, cell proliferation, hemostasis, cell differentiation |
| sp|P20073|ANXA7\_HUMAN *Annexin A7 OS=Homo sapiens GN=ANXA7 PE=1 SV=3* | K.GAGTDDSTLVR.I [430, 440] | autophagy, cell proliferation, hemostasis, cell differentiation |
| sp|P20073|ANXA7\_HUMAN *Annexin A7 OS=Homo sapiens GN=ANXA7 PE=1 SV=3* | R.EFSGYVESGLK.T [397, 407] | autophagy, cell proliferation, hemostasis, cell differentiation |
| sp|P20073|ANXA7\_HUMAN *Annexin A7 OS=Homo sapiens GN=ANXA7 PE=1 SV=3* | K.GFGTDEQAIVDVVANR.S [199, 214] | autophagy, cell proliferation, hemostasis, cell differentiation |
| sp|Q53G71|Q53G71\_HUMAN *Calreticulin variant (Fragment) OS=Homo sapiens PE=2 SV=1* | R.QIDNPDYK.G [267, 274] | protein folding |
| sp|Q53G71|Q53G71\_HUMAN *Calreticulin variant (Fragment) OS=Homo sapiens PE=2 SV=1* | K.GLQTSQDAR.F [53, 61] | protein folding |
| sp|Q53G71|Q53G71\_HUMAN *Calreticulin variant (Fragment) OS=Homo sapiens PE=2 SV=1* | R.FYALSASFEPFSNK.G [62, 75] | protein folding |
| sp|Q53G71|Q53G71\_HUMAN *Calreticulin variant (Fragment) OS=Homo sapiens PE=2 SV=1* | K.EQFLDGDGWTSR.W [13, 24] | protein folding |
| sp|O00299|CLIC1\_HUMAN *Chloride intracellular channel protein 1 OS=Homo sapiens GN=CLIC1 PE=1 SV=4* | K.LHIVQVVCK.K [183, 191] | Ion transport, Transport |
| sp|O00299|CLIC1\_HUMAN *Chloride intracellular channel protein 1 OS=Homo sapiens GN=CLIC1 PE=1 SV=4* | R.YLSNAYAR.E [208, 215] | Ion transport, Transport |
| sp|O00299|CLIC1\_HUMAN *Chloride intracellular channel protein 1 OS=Homo sapiens GN=CLIC1 PE=1 SV=4* | K.IEEFLEAVLCPPR.Y [79, 91] | Ion transport, Transport |
| sp|O00299|CLIC1\_HUMAN *Chloride intracellular channel protein 1 OS=Homo sapiens GN=CLIC1 PE=1 SV=4* | K.GVTFNVTTVDTK.R [37, 48] | Ion transport, Transport |
| sp|O00299|CLIC1\_HUMAN *Chloride intracellular channel protein 1 OS=Homo sapiens GN=CLIC1 PE=1 SV=4* | R.GFTIPEAFR.G [195, 203] | Ion transport, Transport |
| sp|P15311|EZRI\_HUMAN *Ezrin OS=Homo sapiens GN=EZR PE=1 SV=4* | R.IQVWHAEHR.G [171, 179] | Cell shape |
| sp|P15311|EZRI\_HUMAN *Ezrin OS=Homo sapiens GN=EZR PE=1 SV=4* | K.EDEVEEWQHR.A [438, 447] | Cell shape |
| sp|P15311|EZRI\_HUMAN *Ezrin OS=Homo sapiens GN=EZR PE=1 SV=4* | K.SGYLSSER.L [143, 150] | Cell shape |
| sp|P15311|EZRI\_HUMAN *Ezrin OS=Homo sapiens GN=EZR PE=1 SV=4* | K.IALLEEAR.R [427, 434] | Cell shape |
| sp|P15311|EZRI\_HUMAN *Ezrin OS=Homo sapiens GN=EZR PE=1 SV=4* | K.SQEQLAAELAEYTAK.I [412, 426] | Cell shape |
| sp|Q16658|FSCN1\_HUMAN *Fascin OS=Homo sapiens GN=FSCN1 PE=1 SV=3* | K.YLTAEAFGFK.V [22, 31] | cell migration, proliferation |
| sp|Q16658|FSCN1\_HUMAN *Fascin OS=Homo sapiens GN=FSCN1 PE=1 SV=3* | R.FLIVAHDDGR.W [90, 99] | cell migration, proliferation |
| sp|Q16658|FSCN1\_HUMAN *Fascin OS=Homo sapiens GN=FSCN1 PE=1 SV=3* | R.YLAPSGPSGTLK.A [229, 240] | cell migration, proliferation |
| sp|Q16658|FSCN1\_HUMAN *Fascin OS=Homo sapiens GN=FSCN1 PE=1 SV=3* | K.VTGTLDANR.S [399, 407] | cell migration, proliferation |
| sp|Q16658|FSCN1\_HUMAN *Fascin OS=Homo sapiens GN=FSCN1 PE=1 SV=3* | R.LSCFAQTVSPAEK.W [118, 130] | cell migration, proliferation |
| sp|P02792|FRIL\_HUMAN *Ferritin light chain OS=Homo sapiens GN=FTL PE=1 SV=2* | R.LGGPEAGLGEYLFER.L [154, 168] | Iron storage |
| sp|P02792|FRIL\_HUMAN *Ferritin light chain OS=Homo sapiens GN=FTL PE=1 SV=2* | K.KPAEDEWGK.T [83, 91] | Iron storage |
| sp|P39748|FEN1\_HUMAN *Flap endonuclease 1 OS=Homo sapiens GN=FEN1 PE=1 SV=1* | K.SIEEIVR.R [254, 260] | DNA damage, DNA repair, DNA replication |
| sp|P39748|FEN1\_HUMAN *Flap endonuclease 1 OS=Homo sapiens GN=FEN1 PE=1 SV=1* | K.QLQQAQAAGAEQEVEK.F [109, 124] | DNA damage, DNA repair, DNA replication |
| sp|P39748|FEN1\_HUMAN *Flap endonuclease 1 OS=Homo sapiens GN=FEN1 PE=1 SV=1* | K.LIADVAPSAIR.E [8, 18] | DNA damage, DNA repair, DNA replication |
| sp|P09211|GSTP1\_HUMAN *Glutathione S-transferase P OS=Homo sapiens GN=GSTP1 PE=1 SV=2* | K.FQDGDLTLYQSNTILR.H [55, 70] | glutathione metabolism, cellular response, negative regulation |
| sp|P09211|GSTP1\_HUMAN *Glutathione S-transferase P OS=Homo sapiens GN=GSTP1 PE=1 SV=2* | M.PPYTVVYFPVR.G [1, 11] | glutathione metabolism, cellular response, negative regulation |
| sp|P09211|GSTP1\_HUMAN *Glutathione S-transferase P OS=Homo sapiens GN=GSTP1 PE=1 SV=2* | K.ASCLYGQLPK.F [45, 54] | glutathione metabolism, cellular response, negative regulation |
| sp|Q04760|LGUL\_HUMAN *Lactoylglutathione lyase OS=Homo sapiens GN=GLO1 PE=1 SV=4* | K.FSLYFLAYEDK.N [67, 77] | metabolism, differentiation, regulation of transcription |
| sp|Q04760|LGUL\_HUMAN *Lactoylglutathione lyase OS=Homo sapiens GN=GLO1 PE=1 SV=4* | K.SLDFYTR.V [44, 50] | metabolism, differentiation, regulation of transcription |
| sp|Q04760|LGUL\_HUMAN *Lactoylglutathione lyase OS=Homo sapiens GN=GLO1 PE=1 SV=4* | K.IAWALSR.K [88, 94] | metabolism, differentiation, regulation of transcription |
| sp|Q04760|LGUL\_HUMAN *Lactoylglutathione lyase OS=Homo sapiens GN=GLO1 PE=1 SV=4* | R.GFGHIGIAVPDVYSACK.R [123, 139] | metabolism, differentiation, regulation of transcription |
| sp|Q04760|LGUL\_HUMAN *Lactoylglutathione lyase OS=Homo sapiens GN=GLO1 PE=1 SV=4* | R.FEELGVK.F [141, 147] | metabolism, differentiation, regulation of transcription |
| sp|P62993|GRB2\_HUMAN *Growth factor receptor-bound protein 2 OS=Homo sapiens GN=GRB2 PE=1 SV=1* | K.FNSLNELVDYHR.S [124, 135] | Host-virus interaction |
| sp|P62993|GRB2\_HUMAN *Growth factor receptor-bound protein 2 OS=Homo sapiens GN=GRB2 PE=1 SV=1* | K.FGNDVQHFK.V [100, 108] | Host-virus interaction |
| sp|P62993|GRB2\_HUMAN *Growth factor receptor-bound protein 2 OS=Homo sapiens GN=GRB2 PE=1 SV=1* | R.NYVTPVNR.N [207, 214] | Host-virus interaction |
| sp|P62993|GRB2\_HUMAN *Growth factor receptor-bound protein 2 OS=Homo sapiens GN=GRB2 PE=1 SV=1* | K.ATADDELSFK.R [10, 19] | Host-virus interaction |
| sp|P62993|GRB2\_HUMAN *Growth factor receptor-bound protein 2 OS=Homo sapiens GN=GRB2 PE=1 SV=1* | R.ESESAPGDFSLSVK.F [86, 99] | Host-virus interaction |
| sp|P04792|HSPB1\_HUMAN *Heat shock protein beta-1 OS=Homo sapiens GN=HSPB1 PE=1 SV=2* | R.LFDQAFGLPR.L [27, 36] | Stress response |
| sp|P04792|HSPB1\_HUMAN *Heat shock protein beta-1 OS=Homo sapiens GN=HSPB1 PE=1 SV=2* | R.AQLGGPEAAK.S [188, 197] | Stress response |
| sp|P04792|HSPB1\_HUMAN *Heat shock protein beta-1 OS=Homo sapiens GN=HSPB1 PE=1 SV=2* | R.VSLDVNHFAPDELTVK.T [96, 111] | Stress response |
| sp|P04792|HSPB1\_HUMAN *Heat shock protein beta-1 OS=Homo sapiens GN=HSPB1 PE=1 SV=2* | K.DGVVEITGK.H [114, 122] | Stress response |
| sp|P04792|HSPB1\_HUMAN *Heat shock protein beta-1 OS=Homo sapiens GN=HSPB1 PE=1 SV=2* | R.QLSSGVSEIR.H [79, 88] | Stress response |
| sp|Q14116|IL18\_HUMAN *Interleukin-18 OS=Homo sapiens GN=IL18 PE=1 SV=1* | K.EDELGDR.S [176, 182] | Angiogenesis, immune response |
| sp|Q14116|IL18\_HUMAN *Interleukin-18 OS=Homo sapiens GN=IL18 PE=1 SV=1* | K.SDIIFFQR.S [132, 139] | Angiogenesis, immune response |
| sp|Q14116|IL18\_HUMAN *Interleukin-18 OS=Homo sapiens GN=IL18 PE=1 SV=1* | R.TIFIISMYK.D [80, 88] | Angiogenesis, immune response |
| sp|Q14116|IL18\_HUMAN *Interleukin-18 OS=Homo sapiens GN=IL18 PE=1 SV=1* | K.ISTLSCENK.I [106, 114] | Angiogenesis, immune response |
| sp|P09382|LEG1\_HUMAN *Galectin-1 OS=Homo sapiens GN=LGALS1 PE=1 SV=2* | K.DGGAWGTEQR.E [64, 73] | Apoptosis |
| sp|P09382|LEG1\_HUMAN *Galectin-1 OS=Homo sapiens GN=LGALS1 PE=1 SV=2* | K.DSNNLCLHFNPR.F [37, 48] | Apoptosis |
| sp|P09382|LEG1\_HUMAN *Galectin-1 OS=Homo sapiens GN=LGALS1 PE=1 SV=2* | R.FNAHGDANTIVCNSK.D [49, 63] | Apoptosis |
| sp|P09382|LEG1\_HUMAN *Galectin-1 OS=Homo sapiens GN=LGALS1 PE=1 SV=2* | K.SFVLNLGK.D [29, 36] | Apoptosis |
| sp|P09382|LEG1\_HUMAN *Galectin-1 OS=Homo sapiens GN=LGALS1 PE=1 SV=2* | K.LPDGYEFK.F [100, 107] | Apoptosis |
| sp|O00151|PDLI1\_HUMAN *PDZ and LIM domain protein 1 OS=Homo sapiens GN=PDLIM1 PE=1 SV=4* | K.CGTGIVGVFVK.L [262, 272] | regulation of transcription, response to hypoxia |
| sp|O00151|PDLI1\_HUMAN *PDZ and LIM domain protein 1 OS=Homo sapiens GN=PDLIM1 PE=1 SV=4* | K.GCTDNLTLTVAR.S [71, 82] | regulation of transcription, response to hypoxia |
| sp|O00151|PDLI1\_HUMAN *PDZ and LIM domain protein 1 OS=Homo sapiens GN=PDLIM1 PE=1 SV=4* | K.VAASIGNAQK.L [246, 255] | regulation of transcription, response to hypoxia |
| sp|O00151|PDLI1\_HUMAN *PDZ and LIM domain protein 1 OS=Homo sapiens GN=PDLIM1 PE=1 SV=4* | K.VWSPLVTEEGK.R [87, 97] | regulation of transcription, response to hypoxia |
| sp|O00151|PDLI1\_HUMAN *PDZ and LIM domain protein 1 OS=Homo sapiens GN=PDLIM1 PE=1 SV=4* | K.DFEQPLAISR.V [22, 31] | regulation of transcription, response to hypoxia |
| sp|P32119|PRDX2\_HUMAN *Peroxiredoxin-2 OS=Homo sapiens GN=PRDX2 PE=1 SV=5* | R.GLFIIDGK.G [127, 134] | cellular response to oxidative stress, regulation of apoptosis |
| sp|P32119|PRDX2\_HUMAN *Peroxiredoxin-2 OS=Homo sapiens GN=PRDX2 PE=1 SV=5* | K.TDEGIAYR.G [119, 126] | cellular response to oxidative stress, regulation of apoptosis |
| sp|P32119|PRDX2\_HUMAN *Peroxiredoxin-2 OS=Homo sapiens GN=PRDX2 PE=1 SV=5* | R.LSEDYGVLK.T [110, 118] | cellular response to oxidative stress, regulation of apoptosis |
| sp|P32119|PRDX2\_HUMAN *Peroxiredoxin-2 OS=Homo sapiens GN=PRDX2 PE=1 SV=5* | K.ATAVVDGAFK.E [16, 25] | cellular response to oxidative stress, regulation of apoptosis |
| sp|Q13162|PRDX4\_HUMAN *Peroxiredoxin-4 OS=Homo sapiens GN=PRDX4 PE=1 SV=1* | K.DYGVYLEDSGHTLR.G [186, 199] | Antioxidant, Oxidoreductase, Peroxidase |
| sp|Q13162|PRDX4\_HUMAN *Peroxiredoxin-4 OS=Homo sapiens GN=PRDX4 PE=1 SV=1* | R.LVQAFQYTDK.H [230, 239] | Antioxidant, Oxidoreductase, Peroxidase |
| sp|Q13162|PRDX4\_HUMAN *Peroxiredoxin-4 OS=Homo sapiens GN=PRDX4 PE=1 SV=1* | R.IPLLSDLTHQISK.D [173, 185] | Antioxidant, Oxidoreductase, Peroxidase |
| sp|Q13162|PRDX4\_HUMAN *Peroxiredoxin-4 OS=Homo sapiens GN=PRDX4 PE=1 SV=1* | R.QITLNDLPVGR.S [212, 222] | Antioxidant, Oxidoreductase, Peroxidase |
| sp|P23297|S10A1\_HUMAN *Protein S100-A1 OS=Homo sapiens GN=S100A1 PE=1 SV=2* | K.ELLQTELSGFLDAQK.D [35, 49] | intracellular signal transduction |
| sp|P29034|S10A2\_HUMAN *Protein S100-A2 OS=Homo sapiens GN=S100A2 PE=1 SV=3* | K.ELPSFVGEK.V [41, 49] | endothelial cell migration |
| sp|P04271|S100B\_HUMAN *Protein S100-B OS=Homo sapiens GN=S100B PE=1 SV=2* | K.AMVALIDVFHQYSGR.E [6, 20] | cell proliferation, differentiation, learning, CNS development |
| sp|P04271|S100B\_HUMAN *Protein S100-B OS=Homo sapiens GN=S100B PE=1 SV=2* | K.ELINNELSHFLEEIK.E [34, 48] | cell proliferation, differentiation, learning, CNS development |
| sp|P54727|RD23B\_HUMAN *UV excision repair protein RAD23 homolog B OS=Homo sapiens GN=RAD23B PE=1 SV=1* | R.EQVIAALR.A [204, 211] | DNA damage, DNA repair, Ubl conjugation pathway |
| sp|P54727|RD23B\_HUMAN *UV excision repair protein RAD23 homolog B OS=Homo sapiens GN=RAD23B PE=1 SV=1* | K.IDIDPEETVK.A [14, 23] | DNA damage, DNA repair, Ubl conjugation pathway |
| sp|P54727|RD23B\_HUMAN *UV excision repair protein RAD23 homolog B OS=Homo sapiens GN=RAD23B PE=1 SV=1* | K.ILNDDTALK.E [51, 59] | DNA damage, DNA repair, Ubl conjugation pathway |
| sp|O76070|SYUG\_HUMAN *Gamma-synuclein OS=Homo sapiens GN=SNCG PE=1 SV=2* | K.EGVVGAVEK.T [12, 20] | cellular response to hydrostatic pressure, protein secretion, synaptic transmission |
| sp|O76070|SYUG\_HUMAN *Gamma-synuclein OS=Homo sapiens GN=SNCG PE=1 SV=2* | K.ENVVQSVTSVAEK.T [45, 57] | cellular response to hydrostatic pressure, protein secretion, synaptic transmission |
| sp|O76070|SYUG\_HUMAN *Gamma-synuclein OS=Homo sapiens GN=SNCG PE=1 SV=2* | K.TVEEAENIAVTSGVVR.K [80, 95] | cellular response to hydrostatic pressure, protein secretion, synaptic transmission |
| sp|P09493|TPM1\_HUMAN *Tropomyosin alpha-1 chain OS=Homo sapiens GN=TPM1 PE=1 SV=2* | K.LVIIESDLER.A [168, 177] | cardiac muscle contraction, cytoskeleton organization, regulation and cellular response |
| sp|P09493|TPM1\_HUMAN *Tropomyosin alpha-1 chain OS=Homo sapiens GN=TPM1 PE=1 SV=2* | K.SIDDLEDELYAQK.L [251, 263] | cardiac muscle contraction, cytoskeleton organization, regulation and cellular response |
| sp|P09493|TPM1\_HUMAN *Tropomyosin alpha-1 chain OS=Homo sapiens GN=TPM1 PE=1 SV=2* | K.QLEDELVSLQK.K [37, 47] | cardiac muscle contraction, cytoskeleton organization, regulation and cellular response |
| sp|O00762|UBE2C\_HUMAN *Ubiquitin-conjugating enzyme E2 C OS=Homo sapiens GN=UBE2C PE=1 SV=1* | K.YLQETYSK.Q [164, 171] | Cell cycle, Cell division, Mitosis, Ubl conjugation pathway |
| sp|O00762|UBE2C\_HUMAN *Ubiquitin-conjugating enzyme E2 C OS=Homo sapiens GN=UBE2C PE=1 SV=1* | K.LSLEFPSGYPYNAPTVK.F [80, 96] | Cell cycle, Cell division, Mitosis, Ubl conjugation pathway |
| sp|O00762|UBE2C\_HUMAN *Ubiquitin-conjugating enzyme E2 C OS=Homo sapiens GN=UBE2C PE=1 SV=1* | R.DPAATSVAAAR.K [6, 16] | Cell cycle, Cell division, Mitosis, Ubl conjugation pathway |
| sp|O00762|UBE2C\_HUMAN *Ubiquitin-conjugating enzyme E2 C OS=Homo sapiens GN=UBE2C PE=1 SV=1* | K.GISAFPESDNLFK.W [48, 60] | Cell cycle, Cell division, Mitosis, Ubl conjugation pathway |
| sp|P63279|UBC9\_HUMAN *SUMO-conjugating enzyme UBC9 OS=Homo sapiens GN=UBE2I PE=1 SV=1* | K.DDYPSSPPK.C [65, 73] | Cell cycle, Cell division, Chromosome partition, Host-virus interaction, Mitosis, Ubl conjugation pathway |
| sp|P63279|UBC9\_HUMAN *SUMO-conjugating enzyme UBC9 OS=Homo sapiens GN=UBE2I PE=1 SV=1* | K.GTPWEGGLFK.L [49, 58] | Cell cycle, Cell division, Chromosome partition, Host-virus interaction, Mitosis, Ubl conjugation pathway |
| sp|P63279|UBC9\_HUMAN *SUMO-conjugating enzyme UBC9 OS=Homo sapiens GN=UBE2I PE=1 SV=1* | K.DWRPAITIK.Q [101, 109] | Cell cycle, Cell division, Chromosome partition, Host-virus interaction, Mitosis, Ubl conjugation pathway |
| sp|P63279|UBC9\_HUMAN *SUMO-conjugating enzyme UBC9 OS=Homo sapiens GN=UBE2I PE=1 SV=1* | K.DHPFGFVAVPTK.N [18, 29] | Cell cycle, Cell division, Chromosome partition, Host-virus interaction, Mitosis, Ubl conjugation pathway |

# Appendix 2. Scheduled MRM Method

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Compound | Start Time (min) | End Time (min) | Polarity | Precursor (m/z) | Product (m/z) | Collision Energy (V) |
| HLTASEAK | 5.6 | 13.6 | Positive | 428.729792 | 434.224539 | 16.9 |
| HLTASEAK | 5.6 | 13.6 | Positive | 428.729792 | 606.309331 | 16.9 |
| HLTASEAK | 5.6 | 13.6 | Positive | 428.729792 | 719.393395 | 16.9 |
| HLTASEAK | 5.6 | 13.6 | Positive | 432.736891 | 442.238738 | 16.9 |
| HLTASEAK | 5.6 | 13.6 | Positive | 432.736891 | 614.32353 | 16.9 |
| HLTASEAK | 5.6 | 13.6 | Positive | 432.736891 | 727.407594 | 16.9 |
| HIAEDADR | 8.76 | 16.76 | Positive | 463.719955 | 476.209952 | 18.1 |
| HIAEDADR | 8.76 | 16.76 | Positive | 463.719955 | 676.289659 | 18.1 |
| HIAEDADR | 8.76 | 16.76 | Positive | 463.719955 | 789.373723 | 18.1 |
| HIAEDADR | 8.76 | 16.76 | Positive | 468.72409 | 486.218221 | 18.1 |
| HIAEDADR | 8.76 | 16.76 | Positive | 468.72409 | 686.297928 | 18.1 |
| HIAEDADR | 8.76 | 16.76 | Positive | 468.72409 | 799.381992 | 18.1 |
| YSC[+57.0]QEGDK | 11.94 | 19.94 | Positive | 493.697831 | 576.262381 | 19.1 |
| YSC[+57.0]QEGDK | 11.94 | 19.94 | Positive | 493.697831 | 736.29303 | 19.1 |
| YSC[+57.0]QEGDK | 11.94 | 19.94 | Positive | 493.697831 | 823.325058 | 19.1 |
| YSC[+57.0]QEGDK | 11.94 | 19.94 | Positive | 496.707896 | 582.28251 | 19.1 |
| YSC[+57.0]QEGDK | 11.94 | 19.94 | Positive | 496.707896 | 742.313159 | 19.1 |
| YSC[+57.0]QEGDK | 11.94 | 19.94 | Positive | 496.707896 | 829.345187 | 19.1 |
| GLQTSQDAR | 24.64 | 32.64 | Positive | 488.246337 | 576.273615 | 18.9 |
| GLQTSQDAR | 24.64 | 32.64 | Positive | 488.246337 | 677.321293 | 18.9 |
| GLQTSQDAR | 24.64 | 32.64 | Positive | 488.246337 | 805.379871 | 18.9 |
| GLQTSQDAR | 24.64 | 32.64 | Positive | 493.250472 | 586.281884 | 18.9 |
| GLQTSQDAR | 24.64 | 32.64 | Positive | 493.250472 | 687.329562 | 18.9 |
| GLQTSQDAR | 24.64 | 32.64 | Positive | 493.250472 | 815.38814 | 18.9 |
| EDELGDR | 25.18 | 33.18 | Positive | 417.185414 | 460.251423 | 16.5 |
| EDELGDR | 25.18 | 33.18 | Positive | 417.185414 | 589.294016 | 16.5 |
| EDELGDR | 25.18 | 33.18 | Positive | 417.185414 | 704.320959 | 16.5 |
| EDELGDR | 25.18 | 33.18 | Positive | 422.189548 | 470.259692 | 16.5 |
| EDELGDR | 25.18 | 33.18 | Positive | 422.189548 | 599.302285 | 16.5 |
| EDELGDR | 25.18 | 33.18 | Positive | 422.189548 | 714.329228 | 16.5 |
| LYQAGEGR | 25.66 | 33.66 | Positive | 447.227416 | 489.241586 | 17.5 |
| LYQAGEGR | 25.66 | 33.66 | Positive | 447.227416 | 617.300164 | 17.5 |
| LYQAGEGR | 25.66 | 33.66 | Positive | 447.227416 | 780.363492 | 17.5 |
| LYQAGEGR | 25.66 | 33.66 | Positive | 452.231551 | 499.249855 | 17.5 |
| LYQAGEGR | 25.66 | 33.66 | Positive | 452.231551 | 627.308433 | 17.5 |
| LYQAGEGR | 25.66 | 33.66 | Positive | 452.231551 | 790.371761 | 17.5 |
| VAASIGNAQK | 25.94 | 33.94 | Positive | 479.769448 | 517.272886 | 18.6 |
| VAASIGNAQK | 25.94 | 33.94 | Positive | 479.769448 | 717.388979 | 18.6 |
| VAASIGNAQK | 25.94 | 33.94 | Positive | 479.769448 | 788.426093 | 18.6 |
| VAASIGNAQK | 25.94 | 33.94 | Positive | 483.776548 | 525.287085 | 18.6 |
| VAASIGNAQK | 25.94 | 33.94 | Positive | 483.776548 | 725.403178 | 18.6 |
| VAASIGNAQK | 25.94 | 33.94 | Positive | 483.776548 | 796.440292 | 18.6 |
| KPAEDEWGK | 26.11 | 34.11 | Positive | 353.841701 | 390.21358 | 12 |
| KPAEDEWGK | 26.11 | 34.11 | Positive | 353.841701 | 519.256174 | 12 |
| KPAEDEWGK | 26.11 | 34.11 | Positive | 353.841701 | 634.283117 | 12 |
| KPAEDEWGK | 26.11 | 34.11 | Positive | 355.848411 | 396.233709 | 12 |
| KPAEDEWGK | 26.11 | 34.11 | Positive | 355.848411 | 525.276303 | 12 |
| KPAEDEWGK | 26.11 | 34.11 | Positive | 355.848411 | 640.303246 | 12 |
| AQLGGPEAAK | 26.3 | 34.3 | Positive | 471.256174 | 572.303852 | 18.3 |
| AQLGGPEAAK | 26.3 | 34.3 | Positive | 471.256174 | 629.325316 | 18.3 |
| AQLGGPEAAK | 26.3 | 34.3 | Positive | 471.256174 | 742.40938 | 18.3 |
| AQLGGPEAAK | 26.3 | 34.3 | Positive | 475.263273 | 580.318051 | 18.3 |
| AQLGGPEAAK | 26.3 | 34.3 | Positive | 475.263273 | 637.339515 | 18.3 |
| AQLGGPEAAK | 26.3 | 34.3 | Positive | 475.263273 | 750.423579 | 18.3 |
| VTGTLDANR | 26.32 | 34.32 | Positive | 473.751255 | 475.225936 | 18.4 |
| VTGTLDANR | 26.32 | 34.32 | Positive | 473.751255 | 588.31 | 18.4 |
| VTGTLDANR | 26.32 | 34.32 | Positive | 473.751255 | 746.379142 | 18.4 |
| VTGTLDANR | 26.32 | 34.32 | Positive | 478.75539 | 485.234205 | 18.4 |
| VTGTLDANR | 26.32 | 34.32 | Positive | 478.75539 | 598.318269 | 18.4 |
| VTGTLDANR | 26.32 | 34.32 | Positive | 478.75539 | 756.387411 | 18.4 |
| INDISHTQSVSAK | 27.05 | 35.05 | Positive | 467.244045 | 472.74343 | 15.3 |
| INDISHTQSVSAK | 27.05 | 35.05 | Positive | 467.244045 | 529.285462 | 15.3 |
| INDISHTQSVSAK | 27.05 | 35.05 | Positive | 467.244045 | 643.820398 | 15.3 |
| INDISHTQSVSAK | 27.05 | 35.05 | Positive | 469.915445 | 476.75053 | 15.3 |
| INDISHTQSVSAK | 27.05 | 35.05 | Positive | 469.915445 | 533.292562 | 15.3 |
| INDISHTQSVSAK | 27.05 | 35.05 | Positive | 469.915445 | 647.827497 | 15.3 |
| ISTLSC[+57.0]ENK | 27.16 | 35.16 | Positive | 526.258056 | 637.261001 | 20.2 |
| ISTLSC[+57.0]ENK | 27.16 | 35.16 | Positive | 526.258056 | 851.392744 | 20.2 |
| ISTLSC[+57.0]ENK | 27.16 | 35.16 | Positive | 526.258056 | 938.424772 | 20.2 |
| ISTLSC[+57.0]ENK | 27.16 | 35.16 | Positive | 530.265156 | 645.2752 | 20.2 |
| ISTLSC[+57.0]ENK | 27.16 | 35.16 | Positive | 530.265156 | 859.406943 | 20.2 |
| ISTLSC[+57.0]ENK | 27.16 | 35.16 | Positive | 530.265156 | 946.438971 | 20.2 |
| QIDNPDYK | 27.53 | 35.53 | Positive | 496.737814 | 522.255839 | 19.2 |
| QIDNPDYK | 27.53 | 35.53 | Positive | 496.737814 | 636.298767 | 19.2 |
| QIDNPDYK | 27.53 | 35.53 | Positive | 496.737814 | 751.32571 | 19.2 |
| QIDNPDYK | 27.53 | 35.53 | Positive | 500.744913 | 530.270038 | 19.2 |
| QIDNPDYK | 27.53 | 35.53 | Positive | 500.744913 | 644.312966 | 19.2 |
| QIDNPDYK | 27.53 | 35.53 | Positive | 500.744913 | 759.339909 | 19.2 |
| SGYLSSER | 27.96 | 35.96 | Positive | 449.716881 | 478.225602 | 17.6 |
| SGYLSSER | 27.96 | 35.96 | Positive | 449.716881 | 591.309666 | 17.6 |
| SGYLSSER | 27.96 | 35.96 | Positive | 449.716881 | 754.372994 | 17.6 |
| SGYLSSER | 27.96 | 35.96 | Positive | 454.721016 | 488.233871 | 17.6 |
| SGYLSSER | 27.96 | 35.96 | Positive | 454.721016 | 601.317935 | 17.6 |
| SGYLSSER | 27.96 | 35.96 | Positive | 454.721016 | 764.381263 | 17.6 |
| AEVNGLAAQGK | 28.29 | 36.29 | Positive | 529.285462 | 474.267073 | 20.3 |
| AEVNGLAAQGK | 28.29 | 36.29 | Positive | 529.285462 | 644.3726 | 20.3 |
| AEVNGLAAQGK | 28.29 | 36.29 | Positive | 529.285462 | 758.415528 | 20.3 |
| AEVNGLAAQGK | 28.29 | 36.29 | Positive | 533.292562 | 482.281272 | 20.3 |
| AEVNGLAAQGK | 28.29 | 36.29 | Positive | 533.292562 | 652.386799 | 20.3 |
| AEVNGLAAQGK | 28.29 | 36.29 | Positive | 533.292562 | 766.429727 | 20.3 |
| DPAATSVAAAR | 28.54 | 36.54 | Positive | 515.269812 | 574.330736 | 19.8 |
| DPAATSVAAAR | 28.54 | 36.54 | Positive | 515.269812 | 675.378414 | 19.8 |
| DPAATSVAAAR | 28.54 | 36.54 | Positive | 515.269812 | 746.415528 | 19.8 |
| DPAATSVAAAR | 28.54 | 36.54 | Positive | 520.273947 | 584.339005 | 19.8 |
| DPAATSVAAAR | 28.54 | 36.54 | Positive | 520.273947 | 685.386683 | 19.8 |
| DPAATSVAAAR | 28.54 | 36.54 | Positive | 520.273947 | 756.423797 | 19.8 |
| YISLIYTNYEAGK | 28.57 | 36.57 | Positive | 512.264446 | 275.171381 | 16.6 |
| YISLIYTNYEAGK | 28.57 | 36.57 | Positive | 512.264446 | 391.687592 | 16.6 |
| YISLIYTNYEAGK | 28.57 | 36.57 | Positive | 512.264446 | 404.213974 | 16.6 |
| YISLIYTNYEAGK | 28.57 | 36.57 | Positive | 512.264446 | 473.219257 | 16.6 |
| YISLIYTNYEAGK | 28.57 | 36.57 | Positive | 512.264446 | 567.277303 | 16.6 |
| YISLIYTNYEAGK | 28.57 | 36.57 | Positive | 514.935846 | 283.18558 | 16.6 |
| YISLIYTNYEAGK | 28.57 | 36.57 | Positive | 514.935846 | 395.694692 | 16.6 |
| YISLIYTNYEAGK | 28.57 | 36.57 | Positive | 514.935846 | 412.228173 | 16.6 |
| YISLIYTNYEAGK | 28.57 | 36.57 | Positive | 514.935846 | 477.226356 | 16.6 |
| YISLIYTNYEAGK | 28.57 | 36.57 | Positive | 514.935846 | 575.291502 | 16.6 |
| IQVWHAEHR | 28.76 | 36.76 | Positive | 392.540468 | 467.735743 | 13.1 |
| IQVWHAEHR | 28.76 | 36.76 | Positive | 392.540468 | 512.257571 | 13.1 |
| IQVWHAEHR | 28.76 | 36.76 | Positive | 392.540468 | 531.765031 | 13.1 |
| IQVWHAEHR | 28.76 | 36.76 | Positive | 395.876557 | 472.739877 | 13.1 |
| IQVWHAEHR | 28.76 | 36.76 | Positive | 395.876557 | 522.26584 | 13.1 |
| IQVWHAEHR | 28.76 | 36.76 | Positive | 395.876557 | 536.769166 | 13.1 |
| DDYPSSPPK | 28.77 | 36.77 | Positive | 503.229821 | 515.282388 | 19.4 |
| DDYPSSPPK | 28.77 | 36.77 | Positive | 503.229821 | 612.335152 | 19.4 |
| DDYPSSPPK | 28.77 | 36.77 | Positive | 503.229821 | 775.398481 | 19.4 |
| DDYPSSPPK | 28.77 | 36.77 | Positive | 507.236921 | 523.296587 | 19.4 |
| DDYPSSPPK | 28.77 | 36.77 | Positive | 507.236921 | 620.349351 | 19.4 |
| DDYPSSPPK | 28.77 | 36.77 | Positive | 507.236921 | 783.41268 | 19.4 |
| ALYEAGER | 29.27 | 37.27 | Positive | 454.727249 | 419.208692 | 17.8 |
| ALYEAGER | 29.27 | 37.27 | Positive | 454.727249 | 432.220122 | 17.8 |
| ALYEAGER | 29.27 | 37.27 | Positive | 454.727249 | 561.262716 | 17.8 |
| ALYEAGER | 29.27 | 37.27 | Positive | 459.731383 | 424.212827 | 17.8 |
| ALYEAGER | 29.27 | 37.27 | Positive | 459.731383 | 442.228391 | 17.8 |
| ALYEAGER | 29.27 | 37.27 | Positive | 459.731383 | 571.270985 | 17.8 |
| GAGTDDSTLVR | 29.3 | 37.3 | Positive | 546.270009 | 575.351137 | 20.9 |
| GAGTDDSTLVR | 29.3 | 37.3 | Positive | 546.270009 | 690.37808 | 20.9 |
| GAGTDDSTLVR | 29.3 | 37.3 | Positive | 546.270009 | 805.405023 | 20.9 |
| GAGTDDSTLVR | 29.3 | 37.3 | Positive | 551.274144 | 585.359406 | 20.9 |
| GAGTDDSTLVR | 29.3 | 37.3 | Positive | 551.274144 | 700.386349 | 20.9 |
| GAGTDDSTLVR | 29.3 | 37.3 | Positive | 551.274144 | 815.413292 | 20.9 |
| EGVVGAVEK | 29.57 | 37.57 | Positive | 444.245275 | 446.260925 | 17.4 |
| EGVVGAVEK | 29.57 | 37.57 | Positive | 444.245275 | 503.282388 | 17.4 |
| EGVVGAVEK | 29.57 | 37.57 | Positive | 444.245275 | 602.350802 | 17.4 |
| EGVVGAVEK | 29.57 | 37.57 | Positive | 448.252374 | 454.275124 | 17.4 |
| EGVVGAVEK | 29.57 | 37.57 | Positive | 448.252374 | 511.296587 | 17.4 |
| EGVVGAVEK | 29.57 | 37.57 | Positive | 448.252374 | 610.365001 | 17.4 |
| YLQETYSK | 29.68 | 37.68 | Positive | 516.255839 | 397.208161 | 19.9 |
| YLQETYSK | 29.68 | 37.68 | Positive | 516.255839 | 498.255839 | 19.9 |
| YLQETYSK | 29.68 | 37.68 | Positive | 516.255839 | 755.35701 | 19.9 |
| YLQETYSK | 29.68 | 37.68 | Positive | 520.262939 | 405.22236 | 19.9 |
| YLQETYSK | 29.68 | 37.68 | Positive | 520.262939 | 506.270038 | 19.9 |
| YLQETYSK | 29.68 | 37.68 | Positive | 520.262939 | 763.371209 | 19.9 |
| HGFLPR | 29.74 | 37.74 | Positive | 363.705923 | 385.25578 | 14.7 |
| HGFLPR | 29.74 | 37.74 | Positive | 363.705923 | 532.324194 | 14.7 |
| HGFLPR | 29.74 | 37.74 | Positive | 363.705923 | 589.345657 | 14.7 |
| HGFLPR | 29.74 | 37.74 | Positive | 366.715987 | 391.275909 | 14.7 |
| HGFLPR | 29.74 | 37.74 | Positive | 366.715987 | 538.344323 | 14.7 |
| HGFLPR | 29.74 | 37.74 | Positive | 366.715987 | 595.365786 | 14.7 |
| TDEGIAYR | 29.82 | 37.82 | Positive | 462.724706 | 522.303458 | 18 |
| TDEGIAYR | 29.82 | 37.82 | Positive | 462.724706 | 579.324922 | 18 |
| TDEGIAYR | 29.82 | 37.82 | Positive | 462.724706 | 708.367515 | 18 |
| TDEGIAYR | 29.82 | 37.82 | Positive | 467.728841 | 532.311727 | 18 |
| TDEGIAYR | 29.82 | 37.82 | Positive | 467.728841 | 589.333191 | 18 |
| TDEGIAYR | 29.82 | 37.82 | Positive | 467.728841 | 718.375784 | 18 |
| DGGAWGTEQR | 29.86 | 37.86 | Positive | 538.741419 | 590.289265 | 20.6 |
| DGGAWGTEQR | 29.86 | 37.86 | Positive | 538.741419 | 776.368578 | 20.6 |
| DGGAWGTEQR | 29.86 | 37.86 | Positive | 538.741419 | 847.405691 | 20.6 |
| DGGAWGTEQR | 29.86 | 37.86 | Positive | 543.745553 | 600.297534 | 20.6 |
| DGGAWGTEQR | 29.86 | 37.86 | Positive | 543.745553 | 786.376847 | 20.6 |
| DGGAWGTEQR | 29.86 | 37.86 | Positive | 543.745553 | 857.41396 | 20.6 |
| NYVTPVNR | 30.03 | 38.03 | Positive | 481.756341 | 485.283057 | 18.7 |
| NYVTPVNR | 30.03 | 38.03 | Positive | 481.756341 | 586.330736 | 18.7 |
| NYVTPVNR | 30.03 | 38.03 | Positive | 481.756341 | 685.399149 | 18.7 |
| NYVTPVNR | 30.03 | 38.03 | Positive | 486.760475 | 495.291326 | 18.7 |
| NYVTPVNR | 30.03 | 38.03 | Positive | 486.760475 | 596.339005 | 18.7 |
| NYVTPVNR | 30.03 | 38.03 | Positive | 486.760475 | 695.407418 | 18.7 |
| YLSNAYAR | 30.83 | 38.83 | Positive | 479.243066 | 594.299435 | 18.6 |
| YLSNAYAR | 30.83 | 38.83 | Positive | 479.243066 | 681.331464 | 18.6 |
| YLSNAYAR | 30.83 | 38.83 | Positive | 479.243066 | 794.415528 | 18.6 |
| YLSNAYAR | 30.83 | 38.83 | Positive | 484.247201 | 604.307704 | 18.6 |
| YLSNAYAR | 30.83 | 38.83 | Positive | 484.247201 | 691.339733 | 18.6 |
| YLSNAYAR | 30.83 | 38.83 | Positive | 484.247201 | 804.423797 | 18.6 |
| FGNDVQHFK | 30.9 | 38.9 | Positive | 364.513807 | 329.687199 | 12.3 |
| FGNDVQHFK | 30.9 | 38.9 | Positive | 364.513807 | 444.222134 | 12.3 |
| FGNDVQHFK | 30.9 | 38.9 | Positive | 364.513807 | 559.298707 | 12.3 |
| FGNDVQHFK | 30.9 | 38.9 | Positive | 367.185207 | 333.694298 | 12.3 |
| FGNDVQHFK | 30.9 | 38.9 | Positive | 367.185207 | 448.229233 | 12.3 |
| FGNDVQHFK | 30.9 | 38.9 | Positive | 367.185207 | 567.312906 | 12.3 |
| FNAHGDANTIVC[+57.0]NSK | 31.92 | 39.92 | Positive | 549.922977 | 508.218408 | 17.7 |
| FNAHGDANTIVC[+57.0]NSK | 31.92 | 39.92 | Positive | 549.922977 | 607.286822 | 17.7 |
| FNAHGDANTIVC[+57.0]NSK | 31.92 | 39.92 | Positive | 549.922977 | 720.370886 | 17.7 |
| FNAHGDANTIVC[+57.0]NSK | 31.92 | 39.92 | Positive | 552.594377 | 516.232607 | 17.7 |
| FNAHGDANTIVC[+57.0]NSK | 31.92 | 39.92 | Positive | 552.594377 | 615.301021 | 17.7 |
| FNAHGDANTIVC[+57.0]NSK | 31.92 | 39.92 | Positive | 552.594377 | 728.385085 | 17.7 |
| QLQQAQAAGAEQEVEK | 33.14 | 41.14 | Positive | 576.623473 | 480.735271 | 18.5 |
| QLQQAQAAGAEQEVEK | 33.14 | 41.14 | Positive | 576.623473 | 632.324982 | 18.5 |
| QLQQAQAAGAEQEVEK | 33.14 | 41.14 | Positive | 576.623473 | 761.367575 | 18.5 |
| QLQQAQAAGAEQEVEK | 33.14 | 41.14 | Positive | 579.294873 | 484.74237 | 18.5 |
| QLQQAQAAGAEQEVEK | 33.14 | 41.14 | Positive | 579.294873 | 640.339181 | 18.5 |
| QLQQAQAAGAEQEVEK | 33.14 | 41.14 | Positive | 579.294873 | 769.381774 | 18.5 |
| QLSSGVSEIR | 33.94 | 41.94 | Positive | 538.290745 | 660.367515 | 20.6 |
| QLSSGVSEIR | 33.94 | 41.94 | Positive | 538.290745 | 747.399543 | 20.6 |
| QLSSGVSEIR | 33.94 | 41.94 | Positive | 538.290745 | 834.431572 | 20.6 |
| QLSSGVSEIR | 33.94 | 41.94 | Positive | 543.294879 | 670.375784 | 20.6 |
| QLSSGVSEIR | 33.94 | 41.94 | Positive | 543.294879 | 757.407812 | 20.6 |
| QLSSGVSEIR | 33.94 | 41.94 | Positive | 543.294879 | 844.439841 | 20.6 |
| EDEVEEWQHR | 34.18 | 42.18 | Positive | 452.865345 | 378.182812 | 14.9 |
| EDEVEEWQHR | 34.18 | 42.18 | Positive | 452.865345 | 442.704108 | 14.9 |
| EDEVEEWQHR | 34.18 | 42.18 | Positive | 452.865345 | 626.315754 | 14.9 |
| EDEVEEWQHR | 34.18 | 42.18 | Positive | 456.201435 | 383.186946 | 14.9 |
| EDEVEEWQHR | 34.18 | 42.18 | Positive | 456.201435 | 447.708243 | 14.9 |
| EDEVEEWQHR | 34.18 | 42.18 | Positive | 456.201435 | 636.324023 | 14.9 |
| LFTGHPETLEK | 34.63 | 42.63 | Positive | 424.559193 | 506.258913 | 14 |
| LFTGHPETLEK | 34.63 | 42.63 | Positive | 424.559193 | 579.79312 | 14 |
| LFTGHPETLEK | 34.63 | 42.63 | Positive | 424.559193 | 716.382496 | 14 |
| LSEPAELTDAVK | 34.63 | 42.63 | Positive | 424.894242 | 388.213443 | 14 |
| LSEPAELTDAVK | 34.63 | 42.63 | Positive | 424.894242 | 472.258382 | 14 |
| LSEPAELTDAVK | 34.63 | 42.63 | Positive | 424.894242 | 536.779679 | 14 |
| LSEPAELTDAVK | 34.63 | 42.63 | Positive | 424.894242 | 580.295693 | 14 |
| LFTGHPETLEK | 34.63 | 42.63 | Positive | 427.230593 | 510.266013 | 14 |
| LFTGHPETLEK | 34.63 | 42.63 | Positive | 427.230593 | 583.80022 | 14 |
| LFTGHPETLEK | 34.63 | 42.63 | Positive | 427.230593 | 724.396695 | 14 |
| LSEPAELTDAVK | 34.63 | 42.63 | Positive | 427.565641 | 392.220543 | 14 |
| LSEPAELTDAVK | 34.63 | 42.63 | Positive | 427.565641 | 476.265481 | 14 |
| LSEPAELTDAVK | 34.63 | 42.63 | Positive | 427.565641 | 540.786778 | 14 |
| LSEPAELTDAVK | 34.63 | 42.63 | Positive | 427.565641 | 584.302792 | 14 |
| ILNDDTALK | 34.77 | 42.77 | Positive | 501.776939 | 662.335546 | 19.4 |
| ILNDDTALK | 34.77 | 42.77 | Positive | 501.776939 | 776.378474 | 19.4 |
| ILNDDTALK | 34.77 | 42.77 | Positive | 501.776939 | 889.462538 | 19.4 |
| ILNDDTALK | 34.77 | 42.77 | Positive | 505.784038 | 670.349745 | 19.4 |
| ILNDDTALK | 34.77 | 42.77 | Positive | 505.784038 | 784.392673 | 19.4 |
| ILNDDTALK | 34.77 | 42.77 | Positive | 505.784038 | 897.476737 | 19.4 |
| DGVVEITGK | 34.96 | 42.96 | Positive | 459.250557 | 547.308603 | 17.9 |
| DGVVEITGK | 34.96 | 42.96 | Positive | 459.250557 | 646.377017 | 17.9 |
| DGVVEITGK | 34.96 | 42.96 | Positive | 459.250557 | 745.445431 | 17.9 |
| DGVVEITGK | 34.96 | 42.96 | Positive | 463.257656 | 555.322802 | 17.9 |
| DGVVEITGK | 34.96 | 42.96 | Positive | 463.257656 | 654.391216 | 17.9 |
| DGVVEITGK | 34.96 | 42.96 | Positive | 463.257656 | 753.45963 | 17.9 |
| IVGGWEC[+57.0]EK | 35.8 | 43.8 | Positive | 539.255316 | 436.186045 | 20.6 |
| IVGGWEC[+57.0]EK | 35.8 | 43.8 | Positive | 539.255316 | 865.350879 | 20.6 |
| IVGGWEC[+57.0]EK | 35.8 | 43.8 | Positive | 539.255316 | 964.419293 | 20.6 |
| IVGGWEC[+57.0]EK | 35.8 | 43.8 | Positive | 541.763703 | 436.186045 | 20.6 |
| IVGGWEC[+57.0]EK | 35.8 | 43.8 | Positive | 541.763703 | 865.350879 | 20.6 |
| IVGGWEC[+57.0]EK | 35.8 | 43.8 | Positive | 541.763703 | 969.436067 | 20.6 |
| ATAVVDGAFK | 36.05 | 44.05 | Positive | 489.766374 | 636.335152 | 19 |
| ATAVVDGAFK | 36.05 | 44.05 | Positive | 489.766374 | 735.403566 | 19 |
| ATAVVDGAFK | 36.05 | 44.05 | Positive | 489.766374 | 806.44068 | 19 |
| ATAVVDGAFK | 36.05 | 44.05 | Positive | 493.773474 | 644.349351 | 19 |
| ATAVVDGAFK | 36.05 | 44.05 | Positive | 493.773474 | 743.417765 | 19 |
| ATAVVDGAFK | 36.05 | 44.05 | Positive | 493.773474 | 814.454879 | 19 |
| FEELGVK | 36.15 | 44.15 | Positive | 411.223811 | 303.202681 | 16.3 |
| FEELGVK | 36.15 | 44.15 | Positive | 411.223811 | 416.286745 | 16.3 |
| FEELGVK | 36.15 | 44.15 | Positive | 411.223811 | 545.329339 | 16.3 |
| FEELGVK | 36.15 | 44.15 | Positive | 415.23091 | 311.21688 | 16.3 |
| FEELGVK | 36.15 | 44.15 | Positive | 415.23091 | 424.300944 | 16.3 |
| FEELGVK | 36.15 | 44.15 | Positive | 415.23091 | 553.343538 | 16.3 |
| LHIVQVVC[+57.0]K | 36.27 | 44.27 | Positive | 365.882955 | 307.143452 | 12.3 |
| LHIVQVVC[+57.0]K | 36.27 | 44.27 | Positive | 365.882955 | 406.211866 | 12.3 |
| LHIVQVVC[+57.0]K | 36.27 | 44.27 | Positive | 365.882955 | 505.28028 | 12.3 |
| LHIVQVVC[+57.0]K | 36.27 | 44.27 | Positive | 368.554354 | 315.157651 | 12.3 |
| LHIVQVVC[+57.0]K | 36.27 | 44.27 | Positive | 368.554354 | 414.226065 | 12.3 |
| LHIVQVVC[+57.0]K | 36.27 | 44.27 | Positive | 368.554354 | 513.294479 | 12.3 |
| ESDTSYVSLK | 36.41 | 44.41 | Positive | 564.774593 | 609.360639 | 21.5 |
| ESDTSYVSLK | 36.41 | 44.41 | Positive | 564.774593 | 696.392667 | 21.5 |
| ESDTSYVSLK | 36.41 | 44.41 | Positive | 564.774593 | 797.440346 | 21.5 |
| ESDTSYVSLK | 36.41 | 44.41 | Positive | 568.781693 | 617.374838 | 21.5 |
| ESDTSYVSLK | 36.41 | 44.41 | Positive | 568.781693 | 704.406866 | 21.5 |
| ESDTSYVSLK | 36.41 | 44.41 | Positive | 568.781693 | 805.454545 | 21.5 |
| YLAPSGPSGTLK | 36.77 | 44.77 | Positive | 595.82442 | 746.404294 | 22.6 |
| YLAPSGPSGTLK | 36.77 | 44.77 | Positive | 595.82442 | 843.457058 | 22.6 |
| YLAPSGPSGTLK | 36.77 | 44.77 | Positive | 595.82442 | 914.494172 | 22.6 |
| YLAPSGPSGTLK | 36.77 | 44.77 | Positive | 599.83152 | 754.418493 | 22.6 |
| YLAPSGPSGTLK | 36.77 | 44.77 | Positive | 599.83152 | 851.471257 | 22.6 |
| YLAPSGPSGTLK | 36.77 | 44.77 | Positive | 599.83152 | 922.508371 | 22.6 |
| FLIVAHDDGR | 36.85 | 44.85 | Positive | 381.536612 | 300.130245 | 12.8 |
| FLIVAHDDGR | 36.85 | 44.85 | Positive | 381.536612 | 385.183009 | 12.8 |
| FLIVAHDDGR | 36.85 | 44.85 | Positive | 381.536612 | 441.725041 | 12.8 |
| FLIVAHDDGR | 36.85 | 44.85 | Positive | 384.872701 | 305.134379 | 12.8 |
| FLIVAHDDGR | 36.85 | 44.85 | Positive | 384.872701 | 390.187143 | 12.8 |
| FLIVAHDDGR | 36.85 | 44.85 | Positive | 384.872701 | 446.729175 | 12.8 |
| SIEEIVR | 36.88 | 44.88 | Positive | 423.239992 | 516.314023 | 16.7 |
| SIEEIVR | 36.88 | 44.88 | Positive | 423.239992 | 645.356616 | 16.7 |
| SIEEIVR | 36.88 | 44.88 | Positive | 423.239992 | 758.44068 | 16.7 |
| SIEEIVR | 36.88 | 44.88 | Positive | 428.244127 | 526.322292 | 16.7 |
| SIEEIVR | 36.88 | 44.88 | Positive | 428.244127 | 655.364885 | 16.7 |
| SIEEIVR | 36.88 | 44.88 | Positive | 428.244127 | 768.448949 | 16.7 |
| YLASASTMDHAR | 38.6 | 46.6 | Positive | 441.543438 | 488.219265 | 14.5 |
| YLASASTMDHAR | 38.6 | 46.6 | Positive | 441.543438 | 523.737822 | 14.5 |
| YLASASTMDHAR | 38.6 | 46.6 | Positive | 441.543438 | 817.362112 | 14.5 |
| YLASASTMDHAR | 38.6 | 46.6 | Positive | 443.550147 | 491.22933 | 14.5 |
| YLASASTMDHAR | 38.6 | 46.6 | Positive | 443.550147 | 526.747887 | 14.5 |
| YLASASTMDHAR | 38.6 | 46.6 | Positive | 443.550147 | 823.382241 | 14.5 |
| QVLFSADDR | 38.68 | 46.68 | Positive | 525.764363 | 563.24198 | 20.2 |
| QVLFSADDR | 38.68 | 46.68 | Positive | 525.764363 | 710.310394 | 20.2 |
| QVLFSADDR | 38.68 | 46.68 | Positive | 525.764363 | 823.394458 | 20.2 |
| QVLFSADDR | 38.68 | 46.68 | Positive | 530.768497 | 573.250249 | 20.2 |
| QVLFSADDR | 38.68 | 46.68 | Positive | 530.768497 | 720.318663 | 20.2 |
| QVLFSADDR | 38.68 | 46.68 | Positive | 530.768497 | 833.402727 | 20.2 |
| ATADDELSFK | 38.68 | 46.68 | Positive | 548.761486 | 738.366846 | 21 |
| ATADDELSFK | 38.68 | 46.68 | Positive | 548.761486 | 853.393789 | 21 |
| ATADDELSFK | 38.68 | 46.68 | Positive | 548.761486 | 924.430903 | 21 |
| ATADDELSFK | 38.68 | 46.68 | Positive | 552.768585 | 746.381045 | 21 |
| ATADDELSFK | 38.68 | 46.68 | Positive | 552.768585 | 861.407988 | 21 |
| ATADDELSFK | 38.68 | 46.68 | Positive | 552.768585 | 932.445102 | 21 |
| EQVIAALR | 38.82 | 46.82 | Positive | 450.269084 | 430.277243 | 17.6 |
| EQVIAALR | 38.82 | 46.82 | Positive | 450.269084 | 543.361307 | 17.6 |
| EQVIAALR | 38.82 | 46.82 | Positive | 450.269084 | 642.429721 | 17.6 |
| EQVIAALR | 38.82 | 46.82 | Positive | 455.273219 | 440.285512 | 17.6 |
| EQVIAALR | 38.82 | 46.82 | Positive | 455.273219 | 553.369576 | 17.6 |
| EQVIAALR | 38.82 | 46.82 | Positive | 455.273219 | 652.43799 | 17.6 |
| LSC[+57.0]FAQTVSPAEK | 39.09 | 47.09 | Positive | 719.355759 | 531.277303 | 26.7 |
| LSC[+57.0]FAQTVSPAEK | 39.09 | 47.09 | Positive | 719.355759 | 731.393395 | 26.7 |
| LSC[+57.0]FAQTVSPAEK | 39.09 | 47.09 | Positive | 719.355759 | 930.489087 | 26.7 |
| LSC[+57.0]FAQTVSPAEK | 39.09 | 47.09 | Positive | 723.362858 | 539.291502 | 26.7 |
| LSC[+57.0]FAQTVSPAEK | 39.09 | 47.09 | Positive | 723.362858 | 739.407594 | 26.7 |
| LSC[+57.0]FAQTVSPAEK | 39.09 | 47.09 | Positive | 723.362858 | 938.503286 | 26.7 |
| VLVSLSAGGR | 39.48 | 47.48 | Positive | 479.787641 | 447.231021 | 18.6 |
| VLVSLSAGGR | 39.48 | 47.48 | Positive | 479.787641 | 647.347114 | 18.6 |
| VLVSLSAGGR | 39.48 | 47.48 | Positive | 479.787641 | 746.415528 | 18.6 |
| VLVSLSAGGR | 39.48 | 47.48 | Positive | 484.791775 | 457.23929 | 18.6 |
| VLVSLSAGGR | 39.48 | 47.48 | Positive | 484.791775 | 657.355383 | 18.6 |
| VLVSLSAGGR | 39.48 | 47.48 | Positive | 484.791775 | 756.423797 | 18.6 |
| LSEDYGVLK | 39.76 | 47.76 | Positive | 512.271489 | 694.377017 | 19.7 |
| LSEDYGVLK | 39.76 | 47.76 | Positive | 512.271489 | 823.41961 | 19.7 |
| LSEDYGVLK | 39.76 | 47.76 | Positive | 512.271489 | 910.451639 | 19.7 |
| LSEDYGVLK | 39.76 | 47.76 | Positive | 516.278589 | 702.391216 | 19.7 |
| LSEDYGVLK | 39.76 | 47.76 | Positive | 516.278589 | 831.433809 | 19.7 |
| LSEDYGVLK | 39.76 | 47.76 | Positive | 516.278589 | 918.465838 | 19.7 |
| GLGTDDNTLIR | 40.04 | 48.04 | Positive | 587.806759 | 502.334758 | 22.3 |
| GLGTDDNTLIR | 40.04 | 48.04 | Positive | 587.806759 | 559.296027 | 22.3 |
| GLGTDDNTLIR | 40.04 | 48.04 | Positive | 587.806759 | 731.404629 | 22.3 |
| GLGTDDNTLIR | 40.04 | 48.04 | Positive | 592.810893 | 512.343027 | 22.3 |
| GLGTDDNTLIR | 40.04 | 48.04 | Positive | 592.810893 | 564.300162 | 22.3 |
| GLGTDDNTLIR | 40.04 | 48.04 | Positive | 592.810893 | 741.412898 | 22.3 |
| ASC[+57.0]LYGQLPK | 40.17 | 48.17 | Positive | 568.792066 | 542.329673 | 21.6 |
| ASC[+57.0]LYGQLPK | 40.17 | 48.17 | Positive | 568.792066 | 705.393001 | 21.6 |
| ASC[+57.0]LYGQLPK | 40.17 | 48.17 | Positive | 568.792066 | 818.477066 | 21.6 |
| C[+57.0]GTGIVGVFVK | 40.17 | 48.17 | Positive | 568.810259 | 488.794935 | 21.6 |
| C[+57.0]GTGIVGVFVK | 40.17 | 48.17 | Positive | 568.810259 | 549.339509 | 21.6 |
| C[+57.0]GTGIVGVFVK | 40.17 | 48.17 | Positive | 568.810259 | 818.513451 | 21.6 |
| ASC[+57.0]LYGQLPK | 40.17 | 48.17 | Positive | 572.799166 | 550.343872 | 21.6 |
| ASC[+57.0]LYGQLPK | 40.17 | 48.17 | Positive | 572.799166 | 713.4072 | 21.6 |
| ASC[+57.0]LYGQLPK | 40.17 | 48.17 | Positive | 572.799166 | 826.491265 | 21.6 |
| C[+57.0]GTGIVGVFVK | 40.17 | 48.17 | Positive | 572.817358 | 492.802034 | 21.6 |
| C[+57.0]GTGIVGVFVK | 40.17 | 48.17 | Positive | 572.817358 | 557.353708 | 21.6 |
| C[+57.0]GTGIVGVFVK | 40.17 | 48.17 | Positive | 572.817358 | 826.52765 | 21.6 |
| LVQAFQYTDK | 40.65 | 48.65 | Positive | 606.816595 | 801.377745 | 22.9 |
| LVQAFQYTDK | 40.65 | 48.65 | Positive | 606.816595 | 872.414859 | 22.9 |
| LVQAFQYTDK | 40.65 | 48.65 | Positive | 606.816595 | 1000.473437 | 22.9 |
| LVQAFQYTDK | 40.65 | 48.65 | Positive | 610.823695 | 809.391944 | 22.9 |
| LVQAFQYTDK | 40.65 | 48.65 | Positive | 610.823695 | 880.429058 | 22.9 |
| LVQAFQYTDK | 40.65 | 48.65 | Positive | 610.823695 | 1008.487636 | 22.9 |
| GMAVTISVK | 40.68 | 48.68 | Positive | 453.25987 | 547.344989 | 17.7 |
| GMAVTISVK | 40.68 | 48.68 | Positive | 453.25987 | 646.413403 | 17.7 |
| GMAVTISVK | 40.68 | 48.68 | Positive | 453.25987 | 717.450516 | 17.7 |
| GMAVTISVK | 40.68 | 48.68 | Positive | 457.26697 | 555.359188 | 17.7 |
| GMAVTISVK | 40.68 | 48.68 | Positive | 457.26697 | 654.427602 | 17.7 |
| GMAVTISVK | 40.68 | 48.68 | Positive | 457.26697 | 725.464715 | 17.7 |
| LPDGYEFK | 40.94 | 48.94 | Positive | 484.739825 | 428.197793 | 18.8 |
| LPDGYEFK | 40.94 | 48.94 | Positive | 484.739825 | 758.335546 | 18.8 |
| LPDGYEFK | 40.94 | 48.94 | Positive | 484.739825 | 855.38831 | 18.8 |
| LPDGYEFK | 40.94 | 48.94 | Positive | 488.746925 | 432.204893 | 18.8 |
| LPDGYEFK | 40.94 | 48.94 | Positive | 488.746925 | 766.349745 | 18.8 |
| LPDGYEFK | 40.94 | 48.94 | Positive | 488.746925 | 863.402509 | 18.8 |
| SLDFYTR | 41.11 | 49.11 | Positive | 451.224342 | 586.298373 | 17.7 |
| SLDFYTR | 41.11 | 49.11 | Positive | 451.224342 | 701.325316 | 17.7 |
| SLDFYTR | 41.11 | 49.11 | Positive | 451.224342 | 814.40938 | 17.7 |
| SLDFYTR | 41.11 | 49.11 | Positive | 456.228477 | 596.306642 | 17.7 |
| SLDFYTR | 41.11 | 49.11 | Positive | 456.228477 | 711.333585 | 17.7 |
| SLDFYTR | 41.11 | 49.11 | Positive | 456.228477 | 824.417649 | 17.7 |
| TPAQFDADELR | 41.13 | 49.13 | Positive | 631.804216 | 718.336609 | 23.8 |
| TPAQFDADELR | 41.13 | 49.13 | Positive | 631.804216 | 865.405023 | 23.8 |
| TPAQFDADELR | 41.13 | 49.13 | Positive | 631.804216 | 1064.500714 | 23.8 |
| TPAQFDADELR | 41.13 | 49.13 | Positive | 636.808351 | 728.344878 | 23.8 |
| TPAQFDADELR | 41.13 | 49.13 | Positive | 636.808351 | 875.413292 | 23.8 |
| TPAQFDADELR | 41.13 | 49.13 | Positive | 636.808351 | 1074.508983 | 23.8 |
| ELSDIALR | 41.21 | 49.21 | Positive | 458.758549 | 472.324194 | 17.9 |
| ELSDIALR | 41.21 | 49.21 | Positive | 458.758549 | 587.351137 | 17.9 |
| ELSDIALR | 41.21 | 49.21 | Positive | 458.758549 | 674.383165 | 17.9 |
| ELSDIALR | 41.21 | 49.21 | Positive | 463.762684 | 482.332463 | 17.9 |
| ELSDIALR | 41.21 | 49.21 | Positive | 463.762684 | 597.359406 | 17.9 |
| ELSDIALR | 41.21 | 49.21 | Positive | 463.762684 | 684.391434 | 17.9 |
| IDIDPEETVK | 41.58 | 49.58 | Positive | 579.798068 | 702.366846 | 22 |
| IDIDPEETVK | 41.58 | 49.58 | Positive | 579.798068 | 817.393789 | 22 |
| IDIDPEETVK | 41.58 | 49.58 | Positive | 579.798068 | 930.477853 | 22 |
| IDIDPEETVK | 41.58 | 49.58 | Positive | 583.805168 | 710.381045 | 22 |
| IDIDPEETVK | 41.58 | 49.58 | Positive | 583.805168 | 825.407988 | 22 |
| IDIDPEETVK | 41.58 | 49.58 | Positive | 583.805168 | 938.492052 | 22 |
| GC[+57.0]TDNLTLTVAR | 41.61 | 49.61 | Positive | 660.832451 | 559.356222 | 24.8 |
| GC[+57.0]TDNLTLTVAR | 41.61 | 49.61 | Positive | 660.832451 | 660.403901 | 24.8 |
| GC[+57.0]TDNLTLTVAR | 41.61 | 49.61 | Positive | 660.832451 | 1103.605514 | 24.8 |
| GC[+57.0]TDNLTLTVAR | 41.61 | 49.61 | Positive | 665.836585 | 569.364491 | 24.8 |
| GC[+57.0]TDNLTLTVAR | 41.61 | 49.61 | Positive | 665.836585 | 670.41217 | 24.8 |
| GC[+57.0]TDNLTLTVAR | 41.61 | 49.61 | Positive | 665.836585 | 1113.613783 | 24.8 |
| DSNNLC[+57.0]LHFNPR | 42.23 | 50.23 | Positive | 496.233375 | 472.231979 | 16.2 |
| DSNNLC[+57.0]LHFNPR | 42.23 | 50.23 | Positive | 496.233375 | 528.774011 | 16.2 |
| DSNNLC[+57.0]LHFNPR | 42.23 | 50.23 | Positive | 496.233375 | 642.816938 | 16.2 |
| DSNNLC[+57.0]LHFNPR | 42.23 | 50.23 | Positive | 499.569464 | 477.236113 | 16.2 |
| DSNNLC[+57.0]LHFNPR | 42.23 | 50.23 | Positive | 499.569464 | 533.778145 | 16.2 |
| DSNNLC[+57.0]LHFNPR | 42.23 | 50.23 | Positive | 499.569464 | 647.821073 | 16.2 |
| IALLEEAR | 42.3 | 50.3 | Positive | 457.768917 | 504.241252 | 17.9 |
| IALLEEAR | 42.3 | 50.3 | Positive | 457.768917 | 617.325316 | 17.9 |
| IALLEEAR | 42.3 | 50.3 | Positive | 457.768917 | 801.446494 | 17.9 |
| IALLEEAR | 42.3 | 50.3 | Positive | 462.773051 | 514.249521 | 17.9 |
| IALLEEAR | 42.3 | 50.3 | Positive | 462.773051 | 627.333585 | 17.9 |
| IALLEEAR | 42.3 | 50.3 | Positive | 462.773051 | 811.454763 | 17.9 |
| AAYLQETGKPLDETLK | 42.46 | 50.46 | Positive | 592.98412 | 679.861731 | 19 |
| AAYLQETGKPLDETLK | 42.46 | 50.46 | Positive | 592.98412 | 736.403763 | 19 |
| AAYLQETGKPLDETLK | 42.46 | 50.46 | Positive | 592.98412 | 817.935427 | 19 |
| AAYLQETGKPLDETLK | 42.46 | 50.46 | Positive | 595.655519 | 683.868831 | 19 |
| AAYLQETGKPLDETLK | 42.46 | 50.46 | Positive | 595.655519 | 740.410863 | 19 |
| AAYLQETGKPLDETLK | 42.46 | 50.46 | Positive | 595.655519 | 821.942527 | 19 |
| SSDLVALSGGHTFGK | 42.73 | 50.73 | Positive | 492.587812 | 487.756341 | 16 |
| SSDLVALSGGHTFGK | 42.73 | 50.73 | Positive | 492.587812 | 537.290548 | 16 |
| SSDLVALSGGHTFGK | 42.73 | 50.73 | Positive | 492.587812 | 651.346051 | 16 |
| SSDLVALSGGHTFGK | 42.73 | 50.73 | Positive | 495.259211 | 491.76344 | 16 |
| SSDLVALSGGHTFGK | 42.73 | 50.73 | Positive | 495.259211 | 541.297647 | 16 |
| SSDLVALSGGHTFGK | 42.73 | 50.73 | Positive | 495.259211 | 655.353151 | 16 |
| EFSGYVESGLK | 42.74 | 50.74 | Positive | 608.298235 | 533.292953 | 23 |
| EFSGYVESGLK | 42.74 | 50.74 | Positive | 608.298235 | 632.361367 | 23 |
| EFSGYVESGLK | 42.74 | 50.74 | Positive | 608.298235 | 939.478188 | 23 |
| EFSGYVESGLK | 42.74 | 50.74 | Positive | 612.305335 | 541.307152 | 23 |
| EFSGYVESGLK | 42.74 | 50.74 | Positive | 612.305335 | 640.375566 | 23 |
| EFSGYVESGLK | 42.74 | 50.74 | Positive | 612.305335 | 947.492387 | 23 |
| ELPSFVGEK | 43.23 | 51.23 | Positive | 503.266207 | 432.245275 | 19.4 |
| ELPSFVGEK | 43.23 | 51.23 | Positive | 503.266207 | 579.313689 | 19.4 |
| ELPSFVGEK | 43.23 | 51.23 | Positive | 503.266207 | 763.398481 | 19.4 |
| ELPSFVGEK | 43.23 | 51.23 | Positive | 506.276271 | 438.265404 | 19.4 |
| ELPSFVGEK | 43.23 | 51.23 | Positive | 506.276271 | 585.333818 | 19.4 |
| ELPSFVGEK | 43.23 | 51.23 | Positive | 506.276271 | 769.41861 | 19.4 |
| GVTFNVTTVDTK | 43.85 | 51.85 | Positive | 641.337892 | 664.351196 | 24.1 |
| GVTFNVTTVDTK | 43.85 | 51.85 | Positive | 641.337892 | 763.41961 | 24.1 |
| GVTFNVTTVDTK | 43.85 | 51.85 | Positive | 641.337892 | 877.462538 | 24.1 |
| GVTFNVTTVDTK | 43.85 | 51.85 | Positive | 645.344991 | 672.365395 | 24.1 |
| GVTFNVTTVDTK | 43.85 | 51.85 | Positive | 645.344991 | 771.433809 | 24.1 |
| GVTFNVTTVDTK | 43.85 | 51.85 | Positive | 645.344991 | 885.476737 | 24.1 |
| LIADVAPSAIR | 43.89 | 51.89 | Positive | 563.334955 | 543.324922 | 21.5 |
| LIADVAPSAIR | 43.89 | 51.89 | Positive | 563.334955 | 614.362036 | 21.5 |
| LIADVAPSAIR | 43.89 | 51.89 | Positive | 563.334955 | 899.494506 | 21.5 |
| LIADVAPSAIR | 43.89 | 51.89 | Positive | 568.33909 | 553.333191 | 21.5 |
| LIADVAPSAIR | 43.89 | 51.89 | Positive | 568.33909 | 624.370305 | 21.5 |
| LIADVAPSAIR | 43.89 | 51.89 | Positive | 568.33909 | 909.502775 | 21.5 |
| IAWALSR | 44.03 | 52.03 | Positive | 408.739962 | 375.235044 | 16.2 |
| IAWALSR | 44.03 | 52.03 | Positive | 408.739962 | 446.272158 | 16.2 |
| IAWALSR | 44.03 | 52.03 | Positive | 408.739962 | 703.388585 | 16.2 |
| IAWALSR | 44.03 | 52.03 | Positive | 413.744097 | 385.243313 | 16.2 |
| IAWALSR | 44.03 | 52.03 | Positive | 413.744097 | 456.280427 | 16.2 |
| IAWALSR | 44.03 | 52.03 | Positive | 413.744097 | 713.396854 | 16.2 |
| GQTLVVQFTVK | 44.06 | 52.06 | Positive | 407.239684 | 246.181218 | 13.5 |
| GQTLVVQFTVK | 44.06 | 52.06 | Positive | 407.239684 | 347.228896 | 13.5 |
| GQTLVVQFTVK | 44.06 | 52.06 | Positive | 407.239684 | 494.29731 | 13.5 |
| GQTLVVQFTVK | 44.06 | 52.06 | Positive | 409.911083 | 254.195417 | 13.5 |
| GQTLVVQFTVK | 44.06 | 52.06 | Positive | 409.911083 | 355.243095 | 13.5 |
| GQTLVVQFTVK | 44.06 | 52.06 | Positive | 409.911083 | 502.311509 | 13.5 |
| DWRPAITIK | 44.74 | 52.74 | Positive | 367.213469 | 321.712882 | 12.3 |
| DWRPAITIK | 44.74 | 52.74 | Positive | 367.213469 | 399.763438 | 12.3 |
| DWRPAITIK | 44.74 | 52.74 | Positive | 367.213469 | 492.803094 | 12.3 |
| DWRPAITIK | 44.74 | 52.74 | Positive | 369.884869 | 325.719981 | 12.3 |
| DWRPAITIK | 44.74 | 52.74 | Positive | 369.884869 | 403.770537 | 12.3 |
| DWRPAITIK | 44.74 | 52.74 | Positive | 369.884869 | 496.810193 | 12.3 |
| AGLC[+57.0]QTFVYGGC[+57.0]R | 44.76 | 52.76 | Positive | 744.839753 | 612.255856 | 27.6 |
| AGLC[+57.0]QTFVYGGC[+57.0]R | 44.76 | 52.76 | Positive | 744.839753 | 858.392684 | 27.6 |
| AGLC[+57.0]QTFVYGGC[+57.0]R | 44.76 | 52.76 | Positive | 744.839753 | 959.440363 | 27.6 |
| AGLC[+57.0]QTFVYGGC[+57.0]R | 44.76 | 52.76 | Positive | 747.34814 | 612.255856 | 27.6 |
| AGLC[+57.0]QTFVYGGC[+57.0]R | 44.76 | 52.76 | Positive | 747.34814 | 863.409458 | 27.6 |
| AGLC[+57.0]QTFVYGGC[+57.0]R | 44.76 | 52.76 | Positive | 747.34814 | 964.457137 | 27.6 |
| ESESAPGDFSLSVK | 44.83 | 52.83 | Positive | 726.846278 | 949.498923 | 27 |
| ESESAPGDFSLSVK | 44.83 | 52.83 | Positive | 726.846278 | 1020.536037 | 27 |
| ESESAPGDFSLSVK | 44.83 | 52.83 | Positive | 726.846278 | 1107.568065 | 27 |
| ESESAPGDFSLSVK | 44.83 | 52.83 | Positive | 730.853378 | 957.513122 | 27 |
| ESESAPGDFSLSVK | 44.83 | 52.83 | Positive | 730.853378 | 1028.550236 | 27 |
| ESESAPGDFSLSVK | 44.83 | 52.83 | Positive | 730.853378 | 1115.582264 | 27 |
| DYGVYLEDSGHTLR | 45.05 | 53.05 | Positive | 542.258243 | 514.261987 | 17.5 |
| DYGVYLEDSGHTLR | 45.05 | 53.05 | Positive | 542.258243 | 595.793652 | 17.5 |
| DYGVYLEDSGHTLR | 45.05 | 53.05 | Positive | 542.258243 | 914.432635 | 17.5 |
| DYGVYLEDSGHTLR | 45.05 | 53.05 | Positive | 545.594332 | 519.266122 | 17.5 |
| DYGVYLEDSGHTLR | 45.05 | 53.05 | Positive | 545.594332 | 600.797786 | 17.5 |
| DYGVYLEDSGHTLR | 45.05 | 53.05 | Positive | 545.594332 | 924.440904 | 17.5 |
| WSEPNEEELIK | 45.46 | 53.46 | Positive | 687.332807 | 631.366118 | 25.7 |
| WSEPNEEELIK | 45.46 | 53.46 | Positive | 687.332807 | 971.504403 | 25.7 |
| WSEPNEEELIK | 45.46 | 53.46 | Positive | 687.332807 | 1100.546996 | 25.7 |
| WSEPNEEELIK | 45.46 | 53.46 | Positive | 691.339906 | 639.380317 | 25.7 |
| WSEPNEEELIK | 45.46 | 53.46 | Positive | 691.339906 | 979.518602 | 25.7 |
| WSEPNEEELIK | 45.46 | 53.46 | Positive | 691.339906 | 1108.561195 | 25.7 |
| WSALYDVR | 45.58 | 53.58 | Positive | 505.258716 | 389.214309 | 19.5 |
| WSALYDVR | 45.58 | 53.58 | Positive | 505.258716 | 552.277637 | 19.5 |
| WSALYDVR | 45.58 | 53.58 | Positive | 505.258716 | 665.361701 | 19.5 |
| WSALYDVR | 45.58 | 53.58 | Positive | 510.262851 | 399.222578 | 19.5 |
| WSALYDVR | 45.58 | 53.58 | Positive | 510.262851 | 562.285906 | 19.5 |
| WSALYDVR | 45.58 | 53.58 | Positive | 510.262851 | 675.36997 | 19.5 |
| TVEEAENIAVTSGVVR | 45.99 | 53.99 | Positive | 558.628336 | 517.309272 | 18 |
| TVEEAENIAVTSGVVR | 45.99 | 53.99 | Positive | 558.628336 | 618.35695 | 18 |
| TVEEAENIAVTSGVVR | 45.99 | 53.99 | Positive | 558.628336 | 717.425364 | 18 |
| TVEEAENIAVTSGVVR | 45.99 | 53.99 | Positive | 561.964425 | 527.317541 | 18 |
| TVEEAENIAVTSGVVR | 45.99 | 53.99 | Positive | 561.964425 | 628.365219 | 18 |
| TVEEAENIAVTSGVVR | 45.99 | 53.99 | Positive | 561.964425 | 727.433633 | 18 |
| ENVVQSVTSVAEK | 45.99 | 53.99 | Positive | 695.364638 | 820.441074 | 25.9 |
| ENVVQSVTSVAEK | 45.99 | 53.99 | Positive | 695.364638 | 948.499651 | 25.9 |
| ENVVQSVTSVAEK | 45.99 | 53.99 | Positive | 695.364638 | 1047.568065 | 25.9 |
| ENVVQSVTSVAEK | 45.99 | 53.99 | Positive | 699.371737 | 828.455273 | 25.9 |
| ENVVQSVTSVAEK | 45.99 | 53.99 | Positive | 699.371737 | 956.51385 | 25.9 |
| ENVVQSVTSVAEK | 45.99 | 53.99 | Positive | 699.371737 | 1055.582264 | 25.9 |
| DFEQPLAISR | 46.27 | 54.27 | Positive | 588.306395 | 446.272158 | 22.3 |
| DFEQPLAISR | 46.27 | 54.27 | Positive | 588.306395 | 656.408986 | 22.3 |
| DFEQPLAISR | 46.27 | 54.27 | Positive | 588.306395 | 784.467563 | 22.3 |
| DFEQPLAISR | 46.27 | 54.27 | Positive | 593.310529 | 456.280427 | 22.3 |
| DFEQPLAISR | 46.27 | 54.27 | Positive | 593.310529 | 666.417255 | 22.3 |
| DFEQPLAISR | 46.27 | 54.27 | Positive | 593.310529 | 794.475832 | 22.3 |
| VWSPLVTEEGK | 46.42 | 54.42 | Positive | 622.829703 | 563.267132 | 23.5 |
| VWSPLVTEEGK | 46.42 | 54.42 | Positive | 622.829703 | 872.472374 | 23.5 |
| VWSPLVTEEGK | 46.42 | 54.42 | Positive | 622.829703 | 959.504403 | 23.5 |
| VWSPLVTEEGK | 46.42 | 54.42 | Positive | 626.836802 | 571.281331 | 23.5 |
| VWSPLVTEEGK | 46.42 | 54.42 | Positive | 626.836802 | 880.486573 | 23.5 |
| VWSPLVTEEGK | 46.42 | 54.42 | Positive | 626.836802 | 967.518602 | 23.5 |
| SEIDLVQIK | 46.46 | 54.46 | Positive | 522.800414 | 600.407923 | 20.1 |
| SEIDLVQIK | 46.46 | 54.46 | Positive | 522.800414 | 715.434866 | 20.1 |
| SEIDLVQIK | 46.46 | 54.46 | Positive | 522.800414 | 828.51893 | 20.1 |
| SEIDLVQIK | 46.46 | 54.46 | Positive | 526.807513 | 608.422122 | 20.1 |
| SEIDLVQIK | 46.46 | 54.46 | Positive | 526.807513 | 723.449065 | 20.1 |
| SEIDLVQIK | 46.46 | 54.46 | Positive | 526.807513 | 836.533129 | 20.1 |
| ALQASALNAWR | 46.47 | 54.47 | Positive | 600.827829 | 659.36237 | 22.7 |
| ALQASALNAWR | 46.47 | 54.47 | Positive | 600.827829 | 817.431512 | 22.7 |
| ALQASALNAWR | 46.47 | 54.47 | Positive | 600.827829 | 888.468626 | 22.7 |
| ALQASALNAWR | 46.47 | 54.47 | Positive | 605.831963 | 669.370639 | 22.7 |
| ALQASALNAWR | 46.47 | 54.47 | Positive | 605.831963 | 827.439781 | 22.7 |
| ALQASALNAWR | 46.47 | 54.47 | Positive | 605.831963 | 898.476895 | 22.7 |
| DHPFGFVAVPTK | 46.96 | 54.96 | Positive | 438.89955 | 444.28166 | 14.5 |
| DHPFGFVAVPTK | 46.96 | 54.96 | Positive | 438.89955 | 515.318774 | 14.5 |
| DHPFGFVAVPTK | 46.96 | 54.96 | Positive | 438.89955 | 614.387188 | 14.5 |
| DHPFGFVAVPTK | 46.96 | 54.96 | Positive | 441.57095 | 452.295859 | 14.5 |
| DHPFGFVAVPTK | 46.96 | 54.96 | Positive | 441.57095 | 523.332973 | 14.5 |
| DHPFGFVAVPTK | 46.96 | 54.96 | Positive | 441.57095 | 622.401387 | 14.5 |
| LVIIESDLER | 47.4 | 55.4 | Positive | 593.837528 | 748.347174 | 22.5 |
| LVIIESDLER | 47.4 | 55.4 | Positive | 593.837528 | 861.431238 | 22.5 |
| LVIIESDLER | 47.4 | 55.4 | Positive | 593.837528 | 974.515302 | 22.5 |
| LVIIESDLER | 47.4 | 55.4 | Positive | 598.841662 | 758.355443 | 22.5 |
| LVIIESDLER | 47.4 | 55.4 | Positive | 598.841662 | 871.439507 | 22.5 |
| LVIIESDLER | 47.4 | 55.4 | Positive | 598.841662 | 984.523571 | 22.5 |
| FNSLNELVDYHR | 47.49 | 55.49 | Positive | 502.91604 | 590.268135 | 16.3 |
| FNSLNELVDYHR | 47.49 | 55.49 | Positive | 502.91604 | 623.314751 | 16.3 |
| FNSLNELVDYHR | 47.49 | 55.49 | Positive | 502.91604 | 689.336549 | 16.3 |
| FNSLNELVDYHR | 47.49 | 55.49 | Positive | 506.25213 | 600.276404 | 16.3 |
| FNSLNELVDYHR | 47.49 | 55.49 | Positive | 506.25213 | 628.318886 | 16.3 |
| FNSLNELVDYHR | 47.49 | 55.49 | Positive | 506.25213 | 699.344818 | 16.3 |
| EQFLDGDGWTSR | 47.51 | 55.51 | Positive | 705.817855 | 778.347842 | 26.3 |
| EQFLDGDGWTSR | 47.51 | 55.51 | Positive | 705.817855 | 893.374785 | 26.3 |
| EQFLDGDGWTSR | 47.51 | 55.51 | Positive | 705.817855 | 1153.527263 | 26.3 |
| EQFLDGDGWTSR | 47.51 | 55.51 | Positive | 710.821989 | 788.356111 | 26.3 |
| EQFLDGDGWTSR | 47.51 | 55.51 | Positive | 710.821989 | 903.383054 | 26.3 |
| EQFLDGDGWTSR | 47.51 | 55.51 | Positive | 710.821989 | 1163.535532 | 26.3 |
| QLEDELVSLQK | 47.55 | 55.55 | Positive | 651.350999 | 475.287474 | 24.4 |
| QLEDELVSLQK | 47.55 | 55.55 | Positive | 651.350999 | 574.355888 | 24.4 |
| QLEDELVSLQK | 47.55 | 55.55 | Positive | 651.350999 | 687.439952 | 24.4 |
| QLEDELVSLQK | 47.55 | 55.55 | Positive | 655.358099 | 483.301673 | 24.4 |
| QLEDELVSLQK | 47.55 | 55.55 | Positive | 655.358099 | 582.370087 | 24.4 |
| QLEDELVSLQK | 47.55 | 55.55 | Positive | 655.358099 | 695.454151 | 24.4 |
| SFVLNLGK | 47.92 | 55.92 | Positive | 439.260728 | 431.261259 | 17.3 |
| SFVLNLGK | 47.92 | 55.92 | Positive | 439.260728 | 544.345323 | 17.3 |
| SFVLNLGK | 47.92 | 55.92 | Positive | 439.260728 | 643.413737 | 17.3 |
| SFVLNLGK | 47.92 | 55.92 | Positive | 443.267827 | 439.275458 | 17.3 |
| SFVLNLGK | 47.92 | 55.92 | Positive | 443.267827 | 552.359522 | 17.3 |
| SFVLNLGK | 47.92 | 55.92 | Positive | 443.267827 | 651.427936 | 17.3 |
| EEVVTVETWQEGSLK | 49.15 | 57.15 | Positive | 867.433249 | 948.478522 | 31.8 |
| EEVVTVETWQEGSLK | 49.15 | 57.15 | Positive | 867.433249 | 1077.521115 | 31.8 |
| EEVVTVETWQEGSLK | 49.15 | 57.15 | Positive | 867.433249 | 1277.637208 | 31.8 |
| EEVVTVETWQEGSLK | 49.15 | 57.15 | Positive | 871.440348 | 956.492721 | 31.8 |
| EEVVTVETWQEGSLK | 49.15 | 57.15 | Positive | 871.440348 | 1085.535314 | 31.8 |
| EEVVTVETWQEGSLK | 49.15 | 57.15 | Positive | 871.440348 | 1285.651407 | 31.8 |
| QITLNDLPVGR | 49.29 | 57.29 | Positive | 613.348594 | 428.261593 | 23.2 |
| QITLNDLPVGR | 49.29 | 57.29 | Positive | 613.348594 | 541.345657 | 23.2 |
| QITLNDLPVGR | 49.29 | 57.29 | Positive | 613.348594 | 770.415528 | 23.2 |
| QITLNDLPVGR | 49.29 | 57.29 | Positive | 618.352728 | 438.269862 | 23.2 |
| QITLNDLPVGR | 49.29 | 57.29 | Positive | 618.352728 | 551.353926 | 23.2 |
| QITLNDLPVGR | 49.29 | 57.29 | Positive | 618.352728 | 780.423797 | 23.2 |
| GYSIFSYATK | 49.41 | 57.41 | Positive | 568.784764 | 569.292953 | 21.6 |
| GYSIFSYATK | 49.41 | 57.41 | Positive | 568.784764 | 716.361367 | 21.6 |
| GYSIFSYATK | 49.41 | 57.41 | Positive | 568.784764 | 916.477459 | 21.6 |
| GYSIFSYATK | 49.41 | 57.41 | Positive | 572.791863 | 577.307152 | 21.6 |
| GYSIFSYATK | 49.41 | 57.41 | Positive | 572.791863 | 724.375566 | 21.6 |
| GYSIFSYATK | 49.41 | 57.41 | Positive | 572.791863 | 924.491658 | 21.6 |
| DEGNYLDDALVR | 50.05 | 58.05 | Positive | 690.325513 | 688.36243 | 25.8 |
| DEGNYLDDALVR | 50.05 | 58.05 | Positive | 690.325513 | 801.446494 | 25.8 |
| DEGNYLDDALVR | 50.05 | 58.05 | Positive | 690.325513 | 964.509822 | 25.8 |
| DEGNYLDDALVR | 50.05 | 58.05 | Positive | 695.329647 | 698.370699 | 25.8 |
| DEGNYLDDALVR | 50.05 | 58.05 | Positive | 695.329647 | 811.454763 | 25.8 |
| DEGNYLDDALVR | 50.05 | 58.05 | Positive | 695.329647 | 974.518091 | 25.8 |
| GLFIIDGK | 50.23 | 58.23 | Positive | 431.755278 | 319.161211 | 17 |
| GLFIIDGK | 50.23 | 58.23 | Positive | 431.755278 | 545.329339 | 17 |
| GLFIIDGK | 50.23 | 58.23 | Positive | 431.755278 | 692.397753 | 17 |
| GLFIIDGK | 50.23 | 58.23 | Positive | 435.762378 | 327.17541 | 17 |
| GLFIIDGK | 50.23 | 58.23 | Positive | 435.762378 | 553.343538 | 17 |
| GLFIIDGK | 50.23 | 58.23 | Positive | 435.762378 | 700.411952 | 17 |
| SDIIFFQR | 51.1 | 59.1 | Positive | 513.274366 | 597.314357 | 19.8 |
| SDIIFFQR | 51.1 | 59.1 | Positive | 513.274366 | 710.398421 | 19.8 |
| SDIIFFQR | 51.1 | 59.1 | Positive | 513.274366 | 823.482485 | 19.8 |
| SDIIFFQR | 51.1 | 59.1 | Positive | 518.278501 | 607.322626 | 19.8 |
| SDIIFFQR | 51.1 | 59.1 | Positive | 518.278501 | 720.40669 | 19.8 |
| SDIIFFQR | 51.1 | 59.1 | Positive | 518.278501 | 833.490754 | 19.8 |
| GTPWEGGLFK | 51.15 | 59.15 | Positive | 546.279649 | 650.350802 | 20.9 |
| GTPWEGGLFK | 51.15 | 59.15 | Positive | 546.279649 | 836.430115 | 20.9 |
| GTPWEGGLFK | 51.15 | 59.15 | Positive | 546.279649 | 933.482879 | 20.9 |
| GTPWEGGLFK | 51.15 | 59.15 | Positive | 550.286748 | 658.365001 | 20.9 |
| GTPWEGGLFK | 51.15 | 59.15 | Positive | 550.286748 | 844.444314 | 20.9 |
| GTPWEGGLFK | 51.15 | 59.15 | Positive | 550.286748 | 941.497078 | 20.9 |
| VSLDVNHFAPDELTVK | 51.38 | 59.38 | Positive | 595.312348 | 742.87263 | 19.1 |
| VSLDVNHFAPDELTVK | 51.38 | 59.38 | Positive | 595.312348 | 799.414662 | 19.1 |
| VSLDVNHFAPDELTVK | 51.38 | 59.38 | Positive | 595.312348 | 842.930676 | 19.1 |
| VSLDVNHFAPDELTVK | 51.38 | 59.38 | Positive | 597.983747 | 746.87973 | 19.1 |
| VSLDVNHFAPDELTVK | 51.38 | 59.38 | Positive | 597.983747 | 803.421762 | 19.1 |
| VSLDVNHFAPDELTVK | 51.38 | 59.38 | Positive | 597.983747 | 846.937776 | 19.1 |
| GFGHIGIAVPDVYSAC[+57.0]K | 51.53 | 59.53 | Positive | 597.634656 | 628.275923 | 19.1 |
| GFGHIGIAVPDVYSAC[+57.0]K | 51.53 | 59.53 | Positive | 597.634656 | 727.344337 | 19.1 |
| GFGHIGIAVPDVYSAC[+57.0]K | 51.53 | 59.53 | Positive | 597.634656 | 939.424044 | 19.1 |
| GFGHIGIAVPDVYSAC[+57.0]K | 51.53 | 59.53 | Positive | 600.306056 | 636.290122 | 19.1 |
| GFGHIGIAVPDVYSAC[+57.0]K | 51.53 | 59.53 | Positive | 600.306056 | 735.358536 | 19.1 |
| GFGHIGIAVPDVYSAC[+57.0]K | 51.53 | 59.53 | Positive | 600.306056 | 947.438243 | 19.1 |
| SIDDLEDELYAQK | 51.77 | 59.77 | Positive | 769.864668 | 866.425424 | 28.5 |
| SIDDLEDELYAQK | 51.77 | 59.77 | Positive | 769.864668 | 995.468017 | 28.5 |
| SIDDLEDELYAQK | 51.77 | 59.77 | Positive | 769.864668 | 1338.605967 | 28.5 |
| SIDDLEDELYAQK | 51.77 | 59.77 | Positive | 773.871767 | 874.439623 | 28.5 |
| SIDDLEDELYAQK | 51.77 | 59.77 | Positive | 773.871767 | 1003.482216 | 28.5 |
| SIDDLEDELYAQK | 51.77 | 59.77 | Positive | 773.871767 | 1346.620166 | 28.5 |
| EQANAVSEAVVSSVNTVATK | 52.09 | 60.09 | Positive | 668.679647 | 819.457058 | 21.2 |
| EQANAVSEAVVSSVNTVATK | 52.09 | 60.09 | Positive | 668.679647 | 906.489087 | 21.2 |
| EQANAVSEAVVSSVNTVATK | 52.09 | 60.09 | Positive | 668.679647 | 1005.557501 | 21.2 |
| EQANAVSEAVVSSVNTVATK | 52.09 | 60.09 | Positive | 671.351047 | 827.471257 | 21.2 |
| EQANAVSEAVVSSVNTVATK | 52.09 | 60.09 | Positive | 671.351047 | 914.503286 | 21.2 |
| EQANAVSEAVVSSVNTVATK | 52.09 | 60.09 | Positive | 671.351047 | 1013.5717 | 21.2 |
| SQEQLAAELAEYTAK | 52.41 | 60.41 | Positive | 551.277303 | 611.303518 | 17.8 |
| SQEQLAAELAEYTAK | 52.41 | 60.41 | Positive | 551.277303 | 682.340632 | 17.8 |
| SQEQLAAELAEYTAK | 52.41 | 60.41 | Positive | 551.277303 | 795.424696 | 17.8 |
| SQEQLAAELAEYTAK | 52.41 | 60.41 | Positive | 553.948703 | 619.317717 | 17.8 |
| SQEQLAAELAEYTAK | 52.41 | 60.41 | Positive | 553.948703 | 690.354831 | 17.8 |
| SQEQLAAELAEYTAK | 52.41 | 60.41 | Positive | 553.948703 | 803.438895 | 17.8 |
| YLTAEAFGFK | 52.46 | 60.46 | Positive | 573.795132 | 569.308209 | 21.8 |
| YLTAEAFGFK | 52.46 | 60.46 | Positive | 573.795132 | 769.387916 | 21.8 |
| YLTAEAFGFK | 52.46 | 60.46 | Positive | 573.795132 | 870.435595 | 21.8 |
| YLTAEAFGFK | 52.46 | 60.46 | Positive | 577.802231 | 577.322408 | 21.8 |
| YLTAEAFGFK | 52.46 | 60.46 | Positive | 577.802231 | 777.402115 | 21.8 |
| YLTAEAFGFK | 52.46 | 60.46 | Positive | 577.802231 | 878.449794 | 21.8 |
| GFTIPEAFR | 52.84 | 60.84 | Positive | 519.274366 | 619.319837 | 20 |
| GFTIPEAFR | 52.84 | 60.84 | Positive | 519.274366 | 732.403901 | 20 |
| GFTIPEAFR | 52.84 | 60.84 | Positive | 519.274366 | 833.451579 | 20 |
| GFTIPEAFR | 52.84 | 60.84 | Positive | 524.278501 | 629.328106 | 20 |
| GFTIPEAFR | 52.84 | 60.84 | Positive | 524.278501 | 742.41217 | 20 |
| GFTIPEAFR | 52.84 | 60.84 | Positive | 524.278501 | 843.459848 | 20 |
| LFDQAFGLPR | 53.93 | 61.93 | Positive | 582.314023 | 589.345657 | 22.1 |
| LFDQAFGLPR | 53.93 | 61.93 | Positive | 582.314023 | 660.382771 | 22.1 |
| LFDQAFGLPR | 53.93 | 61.93 | Positive | 582.314023 | 903.468292 | 22.1 |
| LFDQAFGLPR | 53.93 | 61.93 | Positive | 587.318157 | 599.353926 | 22.1 |
| LFDQAFGLPR | 53.93 | 61.93 | Positive | 587.318157 | 670.39104 | 22.1 |
| LFDQAFGLPR | 53.93 | 61.93 | Positive | 587.318157 | 913.476561 | 22.1 |
| GISAFPESDNLFK | 54.08 | 62.08 | Positive | 712.856449 | 949.462538 | 26.5 |
| GISAFPESDNLFK | 54.08 | 62.08 | Positive | 712.856449 | 1096.530952 | 26.5 |
| GISAFPESDNLFK | 54.08 | 62.08 | Positive | 712.856449 | 1254.600094 | 26.5 |
| GISAFPESDNLFK | 54.08 | 62.08 | Positive | 716.863548 | 957.476737 | 26.5 |
| GISAFPESDNLFK | 54.08 | 62.08 | Positive | 716.863548 | 1104.545151 | 26.5 |
| GISAFPESDNLFK | 54.08 | 62.08 | Positive | 716.863548 | 1262.614293 | 26.5 |
| FQDGDLTLYQSNTILR | 54.26 | 62.26 | Positive | 942.478522 | 994.53162 | 34.3 |
| FQDGDLTLYQSNTILR | 54.26 | 62.26 | Positive | 942.478522 | 1107.615684 | 34.3 |
| FQDGDLTLYQSNTILR | 54.26 | 62.26 | Positive | 942.478522 | 1208.663363 | 34.3 |
| FQDGDLTLYQSNTILR | 54.26 | 62.26 | Positive | 947.482657 | 1004.539889 | 34.3 |
| FQDGDLTLYQSNTILR | 54.26 | 62.26 | Positive | 947.482657 | 1117.623953 | 34.3 |
| FQDGDLTLYQSNTILR | 54.26 | 62.26 | Positive | 947.482657 | 1218.671632 | 34.3 |
| PPYTVVYFPVR | 54.38 | 62.38 | Positive | 669.366255 | 681.371872 | 25.1 |
| PPYTVVYFPVR | 54.38 | 62.38 | Positive | 669.366255 | 780.440286 | 25.1 |
| PPYTVVYFPVR | 54.38 | 62.38 | Positive | 669.366255 | 980.556378 | 25.1 |
| PPYTVVYFPVR | 54.38 | 62.38 | Positive | 674.37039 | 691.380141 | 25.1 |
| PPYTVVYFPVR | 54.38 | 62.38 | Positive | 674.37039 | 790.448555 | 25.1 |
| PPYTVVYFPVR | 54.38 | 62.38 | Positive | 674.37039 | 990.564647 | 25.1 |
| IPLLSDLTHQISK | 54.8 | 62.8 | Positive | 488.952203 | 571.31422 | 15.9 |
| IPLLSDLTHQISK | 54.8 | 62.8 | Positive | 488.952203 | 627.856252 | 15.9 |
| IPLLSDLTHQISK | 54.8 | 62.8 | Positive | 488.952203 | 676.382634 | 15.9 |
| IPLLSDLTHQISK | 54.8 | 62.8 | Positive | 491.623602 | 575.321319 | 15.9 |
| IPLLSDLTHQISK | 54.8 | 62.8 | Positive | 491.623602 | 631.863351 | 15.9 |
| IPLLSDLTHQISK | 54.8 | 62.8 | Positive | 491.623602 | 680.389733 | 15.9 |
| LSLEFPSGYPYNAPTVK | 56.4 | 64.4 | Positive | 941.982909 | 889.477794 | 34.3 |
| LSLEFPSGYPYNAPTVK | 56.4 | 64.4 | Positive | 941.982909 | 1293.647378 | 34.3 |
| LSLEFPSGYPYNAPTVK | 56.4 | 64.4 | Positive | 941.982909 | 1440.715792 | 34.3 |
| LSLEFPSGYPYNAPTVK | 56.4 | 64.4 | Positive | 945.990008 | 897.491993 | 34.3 |
| LSLEFPSGYPYNAPTVK | 56.4 | 64.4 | Positive | 945.990008 | 1301.661577 | 34.3 |
| LSLEFPSGYPYNAPTVK | 56.4 | 64.4 | Positive | 945.990008 | 1448.729991 | 34.3 |
| GFGTDEQAIVDVVANR | 56.43 | 64.43 | Positive | 845.923383 | 772.431178 | 31 |
| GFGTDEQAIVDVVANR | 56.43 | 64.43 | Positive | 845.923383 | 885.515242 | 31 |
| GFGTDEQAIVDVVANR | 56.43 | 64.43 | Positive | 845.923383 | 956.552356 | 31 |
| GFGTDEQAIVDVVANR | 56.43 | 64.43 | Positive | 850.927517 | 782.439447 | 31 |
| GFGTDEQAIVDVVANR | 56.43 | 64.43 | Positive | 850.927517 | 895.523511 | 31 |
| GFGTDEQAIVDVVANR | 56.43 | 64.43 | Positive | 850.927517 | 966.560625 | 31 |
| TIFIISMYK | 56.87 | 64.87 | Positive | 558.312103 | 641.332709 | 21.3 |
| TIFIISMYK | 56.87 | 64.87 | Positive | 558.312103 | 754.416773 | 21.3 |
| TIFIISMYK | 56.87 | 64.87 | Positive | 558.312103 | 901.485187 | 21.3 |
| TIFIISMYK | 56.87 | 64.87 | Positive | 562.319202 | 649.346908 | 21.3 |
| TIFIISMYK | 56.87 | 64.87 | Positive | 562.319202 | 762.430972 | 21.3 |
| TIFIISMYK | 56.87 | 64.87 | Positive | 562.319202 | 909.499386 | 21.3 |
| LGGPEAGLGEYLFER | 58.12 | 66.12 | Positive | 804.406837 | 913.441408 | 29.6 |
| LGGPEAGLGEYLFER | 58.12 | 66.12 | Positive | 804.406837 | 1083.546936 | 29.6 |
| LGGPEAGLGEYLFER | 58.12 | 66.12 | Positive | 804.406837 | 1154.58405 | 29.6 |
| LGGPEAGLGEYLFER | 58.12 | 66.12 | Positive | 807.416902 | 919.461537 | 29.6 |
| LGGPEAGLGEYLFER | 58.12 | 66.12 | Positive | 807.416902 | 1089.567065 | 29.6 |
| LGGPEAGLGEYLFER | 58.12 | 66.12 | Positive | 807.416902 | 1160.604179 | 29.6 |
| FYALSASFEPFSNK | 58.32 | 66.32 | Positive | 804.390656 | 592.308937 | 29.6 |
| FYALSASFEPFSNK | 58.32 | 66.32 | Positive | 804.390656 | 955.451973 | 29.6 |
| FYALSASFEPFSNK | 58.32 | 66.32 | Positive | 804.390656 | 1026.489087 | 29.6 |
| FYALSASFEPFSNK | 58.32 | 66.32 | Positive | 808.397755 | 600.323136 | 29.6 |
| FYALSASFEPFSNK | 58.32 | 66.32 | Positive | 808.397755 | 963.466172 | 29.6 |
| FYALSASFEPFSNK | 58.32 | 66.32 | Positive | 808.397755 | 1034.503286 | 29.6 |
| GTDVNVFNTILTTR | 58.9 | 66.9 | Positive | 775.912287 | 818.473043 | 28.7 |
| GTDVNVFNTILTTR | 58.9 | 66.9 | Positive | 775.912287 | 965.541457 | 28.7 |
| GTDVNVFNTILTTR | 58.9 | 66.9 | Positive | 775.912287 | 1178.652798 | 28.7 |
| GTDVNVFNTILTTR | 58.9 | 66.9 | Positive | 780.916421 | 828.481312 | 28.7 |
| GTDVNVFNTILTTR | 58.9 | 66.9 | Positive | 780.916421 | 975.549726 | 28.7 |
| GTDVNVFNTILTTR | 58.9 | 66.9 | Positive | 780.916421 | 1188.661067 | 28.7 |
| GAGTDEGC[+57.0]LIEILASR | 59.83 | 67.83 | Positive | 831.411794 | 688.398815 | 30.5 |
| GAGTDEGC[+57.0]LIEILASR | 59.83 | 67.83 | Positive | 831.411794 | 801.482879 | 30.5 |
| GAGTDEGC[+57.0]LIEILASR | 59.83 | 67.83 | Positive | 831.411794 | 1131.619055 | 30.5 |
| GAGTDEGC[+57.0]LIEILASR | 59.83 | 67.83 | Positive | 836.415928 | 698.407084 | 30.5 |
| GAGTDEGC[+57.0]LIEILASR | 59.83 | 67.83 | Positive | 836.415928 | 811.491148 | 30.5 |
| GAGTDEGC[+57.0]LIEILASR | 59.83 | 67.83 | Positive | 836.415928 | 1141.627324 | 30.5 |
| AMVALIDVFHQYSGR | 60.25 | 68.25 | Positive | 569.627613 | 611.304186 | 18.3 |
| AMVALIDVFHQYSGR | 60.25 | 68.25 | Positive | 569.627613 | 703.364775 | 18.3 |
| AMVALIDVFHQYSGR | 60.25 | 68.25 | Positive | 569.627613 | 752.898982 | 18.3 |
| AMVALIDVFHQYSGR | 60.25 | 68.25 | Positive | 571.634323 | 614.314251 | 18.3 |
| AMVALIDVFHQYSGR | 60.25 | 68.25 | Positive | 571.634323 | 706.37484 | 18.3 |
| AMVALIDVFHQYSGR | 60.25 | 68.25 | Positive | 571.634323 | 755.909047 | 18.3 |
| FSLYFLAYEDK | 62.55 | 70.55 | Positive | 698.345186 | 738.366846 | 26 |
| FSLYFLAYEDK | 62.55 | 70.55 | Positive | 698.345186 | 885.43526 | 26 |
| FSLYFLAYEDK | 62.55 | 70.55 | Positive | 698.345186 | 1048.498589 | 26 |
| FSLYFLAYEDK | 62.55 | 70.55 | Positive | 702.352285 | 746.381045 | 26 |
| FSLYFLAYEDK | 62.55 | 70.55 | Positive | 702.352285 | 893.449459 | 26 |
| FSLYFLAYEDK | 62.55 | 70.55 | Positive | 702.352285 | 1056.512788 | 26 |
| ELLQTELSGFLDAQK | 62.88 | 70.88 | Positive | 846.446159 | 865.441408 | 31.1 |
| ELLQTELSGFLDAQK | 62.88 | 70.88 | Positive | 846.446159 | 978.525472 | 31.1 |
| ELLQTELSGFLDAQK | 62.88 | 70.88 | Positive | 846.446159 | 1208.615744 | 31.1 |
| ELLQTELSGFLDAQK | 62.88 | 70.88 | Positive | 849.456224 | 871.461537 | 31.1 |
| ELLQTELSGFLDAQK | 62.88 | 70.88 | Positive | 849.456224 | 984.545601 | 31.1 |
| ELLQTELSGFLDAQK | 62.88 | 70.88 | Positive | 849.456224 | 1214.635873 | 31.1 |
| IEEFLEAVLC[+57.0]PPR | 64.25 | 72.25 | Positive | 524.941198 | 529.255128 | 17 |
| IEEFLEAVLC[+57.0]PPR | 64.25 | 72.25 | Positive | 524.941198 | 642.339192 | 17 |
| IEEFLEAVLC[+57.0]PPR | 64.25 | 72.25 | Positive | 524.941198 | 741.407606 | 17 |
| IEEFLEAVLC[+57.0]PPR | 64.25 | 72.25 | Positive | 528.277287 | 539.263397 | 17 |
| IEEFLEAVLC[+57.0]PPR | 64.25 | 72.25 | Positive | 528.277287 | 652.347461 | 17 |
| IEEFLEAVLC[+57.0]PPR | 64.25 | 72.25 | Positive | 528.277287 | 751.415875 | 17 |
| TPSALAILENANVLAR | 64.54 | 72.54 | Positive | 826.970136 | 757.431512 | 30.4 |
| TPSALAILENANVLAR | 64.54 | 72.54 | Positive | 826.970136 | 1112.642233 | 30.4 |
| TPSALAILENANVLAR | 64.54 | 72.54 | Positive | 826.970136 | 1183.679347 | 30.4 |
| TPSALAILENANVLAR | 64.54 | 72.54 | Positive | 831.97427 | 767.439781 | 30.4 |
| TPSALAILENANVLAR | 64.54 | 72.54 | Positive | 831.97427 | 1122.650502 | 30.4 |
| TPSALAILENANVLAR | 64.54 | 72.54 | Positive | 831.97427 | 1193.687616 | 30.4 |
| GLGTDEDAIISVLAYR | 64.9 | 72.9 | Positive | 846.943784 | 708.403901 | 31.1 |
| GLGTDEDAIISVLAYR | 64.9 | 72.9 | Positive | 846.943784 | 821.487965 | 31.1 |
| GLGTDEDAIISVLAYR | 64.9 | 72.9 | Positive | 846.943784 | 934.572029 | 31.1 |
| GLGTDEDAIISVLAYR | 64.9 | 72.9 | Positive | 851.947918 | 718.41217 | 31.1 |
| GLGTDEDAIISVLAYR | 64.9 | 72.9 | Positive | 851.947918 | 831.496234 | 31.1 |
| GLGTDEDAIISVLAYR | 64.9 | 72.9 | Positive | 851.947918 | 944.580298 | 31.1 |
| GVDEATIIDILTK | 65.2 | 73.2 | Positive | 694.387582 | 702.439617 | 25.9 |
| GVDEATIIDILTK | 65.2 | 73.2 | Positive | 694.387582 | 815.523681 | 25.9 |
| GVDEATIIDILTK | 65.2 | 73.2 | Positive | 694.387582 | 916.57136 | 25.9 |
| GVDEATIIDILTK | 65.2 | 73.2 | Positive | 698.394681 | 710.453816 | 25.9 |
| GVDEATIIDILTK | 65.2 | 73.2 | Positive | 698.394681 | 823.53788 | 25.9 |
| GVDEATIIDILTK | 65.2 | 73.2 | Positive | 698.394681 | 924.585559 | 25.9 |
| ELINNELSHFLEEIK | 66.28 | 74.28 | Positive | 609.987753 | 679.851166 | 19.5 |
| ELINNELSHFLEEIK | 66.28 | 74.28 | Positive | 609.987753 | 736.87263 | 19.5 |
| ELINNELSHFLEEIK | 66.28 | 74.28 | Positive | 609.987753 | 793.414662 | 19.5 |
| ELINNELSHFLEEIK | 66.28 | 74.28 | Positive | 611.994462 | 682.861231 | 19.5 |
| ELINNELSHFLEEIK | 66.28 | 74.28 | Positive | 611.994462 | 739.882695 | 19.5 |
| ELINNELSHFLEEIK | 66.28 | 74.28 | Positive | 611.994462 | 796.424727 | 19.5 |