**Main display section**

Protein Fold

Slide 1 is the default presentation of the website. Before any filtering and customized column display, by default, the app displays the “default columns” which are: HGNC\_Symbol, Approved Name, Fold\_Annotation, Group, and INDRA\_network (see Display Columns section for more details). All the 710 kinases in the “extended kinome” (from the\_697\_extended\_kinome\_v1\_annotated.csv, 710 rows \* 40 columns) should be displayed in the table before any filtering.

Slide 2 is a demonstration of the filtering steps. Each filtering category (“Fold\_Annotation” for example) is represented as a bullet point.

“Protein Kinase Like”, “Unrelated to Protein Kinase Like”, and “Unknown” is under the “Fold” column.

Under “Protein Kinase Like,” there are three sub-categories “Eukaryotic Protein Kinase,” “Eukaryotic Like Kinase,” and “Atypical”. This information is stored under the column “Fold\_Annotation.”

When a filter is applied for Eukaryotic Protein Kinase, only rows with Eukaryotic Protein Kinase in “Fold\_Annotation” should show up. Alternatively, the user might also select filter on both “Eukaryotic Protein Kinase” and “Eukaryotic Like Kinase”. In this case, only proteins with “Eukaryotic Protein Kinase” or “Eukaryotic Like Kinase” in the “Fold\_Annotation” should show up (as opposed to with and “and” selection which will result in no rows).

Compounds

For this and the remaining filters, some rows have missing values (NaNs). Rows with missing values will be filtered out, but in settings there can be an option to include rows with missing values.

Under “Compounds” users can select proteins with their desired number of compound. The selection will be applied on the “Number of MS/SS cmpds”.

Knowledge

“IDG dark kinase” refers to “IDG dark kinase” column. and “Statistically defined dark kinase” refers to “Statistic dark kinase.” Checking either criteria correspond to selecting the rows with value = 1 for the corresponding column. These bullet points will be radio buttons.

Biological Relevance

The bullets under this header refers to the following columns in the curated kinome table:

Cancer: Cancer; Alzheimer’s disease Alzheimer’s disease; Chronic obstructive pulmonary disease: Chronic obstructive pulmonary disease. Checking any of the criteria will select for the rows with 1 in the corresponding column. The last bullet point corresponds to “Number of Essential cell lines” column in the table. This bullet point selects rows with less than or equal to the user input value in that column.

Resources

“Structure” refers to the “num\_pdb” column in curated kinome table. Selection of this bullet point should select all rows with “num\_pdb” greater than 0. “Commercial assays” refers to the “commercial\_assay” column. Selection of this bullet point should select all rows for which “commercial\_assay” has a value of 1.

Conventional Classification

“Manning Kinase” and “Kinhub Kinase” refer to the “Manning Kinase” and “Kinhub Kinase” columns, respectively. Selections of either bullet point should select all rows with 1 in the corresponding column. These are radio buttons.

Pseudokinase

“Pseudokinase” refers to the “Pseudokinase” column in the table. Selection of this bullet point should select all rows with 1 in this column.

Custom list

This box takes a list of HGNC symbols and selects the rows for which the value of the “HGNC\_Symbol” column in the table is in the list.

**Display Columns**

At the bottom (or the top) of the list, there is a “display columns” section in which the users can choose the columns visible in the table. Please see slide 2 for a complete list of possible columns for display. The corresponding column header in the table is as follows (default columns in bold):

**HGNC\_Symbol: HGNC\_Symbol**

**Approved Name: Approved name**

**INDRA\_network: INDRA\_network**

**Fold\_Annotation: Fold Annotation**

**Group: Group**

Number of MS/SS cmpds: Number of MS/SS cmpds

IDG dark kinase: IDG dark kinase

Statistically defined dark kinase: Statistically defined dark kinase

Cancer: Cancer

Alzeheimer’s disease: Alzeheimer’s disease

Chronic obstructive pulmonary disease: Chronic obstructive pulmonary disease

Number of Essential cell lines: Number of Essential cell lines

Structures: Structures

Commercial Assays available: kinaseform\_in\_ReactionBiology and kinaseform\_in\_DiscoverX (note that this tab correspond to displaying two columns)

Pseudokinase: Pseudokinase

Manning Kinase: Manning Kinase

Kinhub Kinase: Kinhub Kinase

Family: Family

PfamDomain: PfamDomain

Domain Start: DomainStart

Domain End: DomainEnd

Number of INDRA statements: Number of INDRA statements

TIN-X\_Score: TIN-X\_Score

PHAROS\_Target\_Development\_Level: PHAROS\_Target\_Development\_Level

gene\_id: gene\_id

Uniprot Entry: Uniprot Entry

Uniprot Entry name: Uniprot Entry name

Gene names: Gene names