

# Peptide-Antigen Database

The most important aspect in the production of antibodies or drug is the design of the peptide-antigen. A peptide-antigen is a small segment (15-18 amino acids) of the protein sequence of interest. These peptide-antigens can be used for immunization in order to produce antibodies against the protein or they can be used as a basis for small-molecule/drug targeting. Protein Lounge has created the first complete Peptide-Antigen database. This database contains antigenic peptide targets against all known protein sequences throughout a variety of organisms. All peptide targets are linked to Protein Lounge's online hydroplotting tool, which allows you to view an interactive version of the protein sequence on a hydrophilicity/phobicity plot. This is a necessary database for anyone working with antibody or drug development.

## Browsing the Peptide Antigen Database:

The Peptide Antigen Database allows one to search by protein name or GenBank ID to find all peptide targets of a certain protein. There are specific folders for those interested in peptides against transcription factors, kinases or phosphatase, and disease causing proteins. The initial page of the Peptide search displays the matching proteins and the primary Peptide target for those proteins, additionally there is a 'More Peptide Targets' link which displays all of the possible targets, as shown below.

## Hydroplotting Peptides:

Once you have selected the peptides of interest, you can click on the 'Hydroplot' button to view the Kyte-Doolittle hydroplot for the protein sequence. The peptide targets are highlighted along the protein sequence. The hydropathy of each peptide listed next to it.

The hydroplot is a FLASH based component, unique to Protein Lounge. This the only online hydroplotting tool which allows one the highlight regions on the plot to view the corresponding regions highlighted in the protein sequence of that plot.