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A database of MHC-peptide interactions

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Abstract

SYFPEITHI, a database of interactions between proteins of the major histocompatibility complex (MHC) and antigenic peptides, contains information on MHC-associated peptide sequences, anchor positions, MHC molecule specificities and references to the published literature.

Content

SYFPEITHI, a database of interactions between proteins of the major histocompatibility complex (MHC) and antigenic peptides, contains information on MHC-associated peptide sequences, anchor positions, MHC molecule specificities and references to the published literature. It is named after one of the first defined MHC-bound epitopes, a peptide that bound to the MHC molecule H2-K^d. The database 'search' functions include epitope prediction and the retrieval of sequences on the basis of mass spectrometry data. The site also permits searching for epitopes associated with MHC molecules of known peptide-binding motif and allows for the definition of such motifs from sequence or mass spectrometry data.

Navigation

Navigation is easy. Each page links back to the referring page, and clicking the brightly coloured moose on each page returns the reader to the site's entry page. The site's simplicity obviates the need for a search function. All you need to know is whether you want to find a motif or predict an epitope and the remainder of the site is then tuned to the appropriate activity.

Reporter's comments

Timeliness

It is hard to estimate the timeliness of the site as none of the pages has a date stamp, nor is there an obvious or explicit list of motif references from which one could gauge the timeliness of the collection.

Best feature

Motif assignment is accurate, but as the collection of alleles represented is not complete, it would be unwise to be too reliant on it for motif predictions. Epitope prediction is equally good, although the ability to search for ranges of peptide length all at once, rather than in a stepwise manner, would be useful.

Wish list

Some assistance on the use of the site, and in particular in the 'Find your motif' section, would be helpful for first-time users, as would some measure of the regularity of updating of the database.

Related websites

BIMAS HLA peptide binding predictions contains an MHC-binding predictor. The MHCPEP database of MHC-binding peptides comprises over 13,000 peptide sequences known to bind MHC molecules.

Table of links

SYFPEITHI database of MHC ligands and peptide motifs

BIMAS HLA peptide binding predictions

MHCPEP database of MHC-binding peptides

References

1. SYFPEITHI database of MHC ligands and peptide motifs.