Resource Summary Report

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SYFPEITHI: A Database for MHC Ligands and Peptide Motifs

RRID:SCR_013182
Type: Tool

Proper Citation

SYFPEITHI: A Database for MHC Ligands and Peptide Motifs (RRID:SCR_013182)

Resource Information

URL: http://www.syfpeithi.de/

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Description: SYFPEITHI is a database comprising more than 7000 peptide sequences known to bind class I and class II MHC molecules. The entries are compiled from published reports only. It contains a collection of MHC class I and class II ligands and peptide motifs of humans and other species, such as apes, cattle, chicken, and mouse, for example, and is continuously updated. Searches for MHC alleles, MHC motifs, natural ligands, T-cell epitopes, source proteins/organisms and references are possible. Hyperlinks to the EMBL and PubMed databases are included. In addition, ligand predictions are available for a number of MHC allelic products. The database is based on previous publications on T-cell epitopes and MHC ligands. It contains information on: -Peptide sequences -anchor positions -MHC specificity -source proteins, source organisms -publication references Since the number of motifs continuously increases, it was necessary to set up a database which facilitates the search for peptides and allows the prediction of T-cell epitopes. The prediction is based on published motifs (pool sequencing, natural ligands) and takes into consideration the amino acids in the anchor and auxiliary anchor positions, as well as other frequent amino acids. The score is calculated according to the following rules: The amino acids of a certain peptide are given a specific value depending on whether they are anchor, auxiliary anchor or preferred residue. Ideal anchors will be given 10 points, unusual anchors 6-8 points, auxiliary anchors 4-6 and preferred residues 1-4 points. Amino acids that are regarded as having a negative effect on the binding ability are given values between -1 and -3. Sponsors: SYFPEITHI is supported by DFG-Sonderforschungsbereich 685 and theEuropean Union: EU BIOMED CT95-1627, BIOTECH CT95-0263, and EU QLQ-CT-1999-00713.

Abbreviations: SYFPEITHI

Synonyms: SYFPEITHI

Resource Type: data or information resource, database

Keywords: epitope, allele, allelic, amino acid, ape, bind, cattle, chicken, class i, class ii, human, immunological database, ligand, mhc, molecule, motif, mouse, natural, organism, peptide, product, protein, sequence, specie, t-cell, bio.tools, FASEB list

Funding:

Resource Name: SYFPEITHI: A Database for MHC Ligands and Peptide Motifs

Resource ID: SCR_013182

Alternate IDs: nif-0000-21383, biotools:syfpeithi

Alternate URLs: https://bio.tools/syfpeithi

Record Creation Time: 20220129T080314+0000

Record Last Update: 20250523T055001+0000

Ratings and Alerts

No rating or validation information has been found for SYFPEITHI: A Database for MHC Ligands and Peptide Motifs.

No alerts have been found for SYFPEITHI: A Database for MHC Ligands and Peptide Motifs.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 249 mentions in open access literature.

Listed below are recent publications. The full list is available at NIF.

Wakisaka R, et al. (2024) Hypoxia-Targeted Immunotherapy with PD-1 Blockade in Head and Neck Cancer. Cancers, 16(17).

Kortleve D, et al. (2024) TCR-Engineered T Cells Directed against Ropporin-1 Constitute a Safe and Effective Treatment for Triple-Negative Breast Cancer. Cancer discovery, 14(12),

2450.

Chieochansin T, et al. (2024) In silico advancements in Peptide-MHC interaction: A molecular dynamics study of predicted glypican-3 peptides and HLA-A*11:01. Heliyon, 10(17), e36654.

Zhang J, et al. (2024) Bioinformatics analysis of the antigenic epitopes of L7/L12 protein in the B- and T-cells active against Brucella melitensis. Access microbiology, 6(10).

Kawakita S, et al. (2024) An integrated database of experimentally validated major histocompatibility complex epitopes for antigen-specific cancer therapy. Antibody therapeutics, 7(2), 177.

Jiménez-Cabello L, et al. (2024) Vaccine candidates based on MVA viral vectors expressing VP2 or VP7 confer full protection against Epizootic hemorrhagic disease virus in IFNAR(-/-) mice. Journal of virology, 98(12), e0168724.

Shivarov V, et al. (2024) Differential modulation of mutant CALR and JAK2 V617F-driven oncogenesis by HLA genotype in myeloproliferative neoplasms. Frontiers in immunology, 15, 1427810.

Grewal S, et al. (2024) Integrating machine learning to advance epitope mapping. Frontiers in immunology, 15, 1463931.

Kono M, et al. (2024) Immunotherapy targeting tumor-associated antigen in a mouse model of head and neck cancer. Head & neck, 46(8), 2056.

Ferreira-Sena EP, et al. (2023) A New Strategy for Mapping Epitopes of LACK and PEPCK Proteins of Leishmania amazonensis Specific for Major Histocompatibility Complex Class I. International journal of molecular sciences, 24(6).

Hashemzadeh P, et al. (2023) Immunoinformatics analysis of Brucella melitensis to approach a suitable vaccine against brucellosis. Journal, genetic engineering & biotechnology, 21(1), 152.

Heidarinia H, et al. (2023) Two peptides derivate from Acinetobacter baumannii outer membrane protein K as vaccine candidates: a comprehensive in silico study. BMC research notes, 16(1), 128.

Mühlenbruch L, et al. (2023) The HLA ligandome of oropharyngeal squamous cell carcinomas reveals shared tumour-exclusive peptides for semi-personalised vaccination. British journal of cancer, 128(9), 1777.

Hoenisch Gravel N, et al. (2023) TOFIMS mass spectrometry-based immunopeptidomics refines tumor antigen identification. Nature communications, 14(1), 7472.

Zeng X, et al. (2023) Prediction and identification of HLA-A*0201-restricted epitopes from cancer testis antigen CT23. Human vaccines & immunotherapeutics, 19(3), 2293299.

Goyal A, et al. (2023) DNMT and HDAC inhibition induces immunogenic neoantigens from human endogenous retroviral element-derived transcripts. Nature communications, 14(1), 6731.

Komatsuda H, et al. (2023) Mitogen-activated protein kinase inhibition augments the T cell response against HOXB7-expressing tumor through human leukocyte antigen upregulation. Cancer science, 114(2), 399.

Zhang S, et al. (2023) CRM197-conjugated peptides vaccine of HCMV pp65 and gH induce maturation of DC and effective viral-specific T cell responses. Virulence, 14(1), 2169488.

Qin L, et al. (2023) GPC3 and PEG10 peptides associated with placental gp96 elicit specific T cell immunity against hepatocellular carcinoma. Cancer immunology, immunotherapy : CII, 72(12), 4337.

Yamaki H, et al. (2023) Brachyury-targeted immunotherapy combined with gemcitabine against head and neck cancer. Cancer immunology, immunotherapy : CII, 72(8), 2799.