

Resource Summary Report

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Kabat Database of Sequences of Proteins of Immunological Interest

RRID:SCR_006465

Type: Tool

Proper Citation

Kabat Database of Sequences of Proteins of Immunological Interest (RRID:SCR_006465)

Resource Information

URL: <http://www.kabatdatabase.com/>

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Description: The Kabat Database determines the combining site of antibodies based on the available amino acid sequences. The precise delineation of complementarity determining regions (CDR) of both light and heavy chains provides the first example of how properly aligned sequences can be used to derive structural and functional information of biological macromolecules. The Kabat database now includes nucleotide sequences, sequences of T cell receptors for antigens (TCR), major histocompatibility complex (MHC) class I and II molecules, and other proteins of immunological interest. The Kabat Database searching and analysis tools package is an ASP.NET web-based portal containing lookup tools, sequence matching tools, alignment tools, length distribution tools, positional correlation tools and much more. The searching and analysis tools are custom made for the aligned data sets contained in both the SQL Server and ASCII text flat file formats. The searching and analysis tools may be run on a single PC workstation or in a distributed environment. The analysis tools are written in ASP.NET and C# and are available in Visual Studio .NET 2003/2005/2008 formats. The Kabat Database was initially started in 1970 to determine the combining site of antibodies based on the available amino acid sequences at that time. Bence Jones proteins, mostly from human, were aligned, using the now-known Kabat numbering system, and a quantitative measure, variability, was calculated for every position. Three peaks, at positions 24-34, 50-56 and 89-97, were identified and proposed to form the complementarity determining regions (CDR) of light chains. Subsequently, antibody heavy chain amino acid sequences were also aligned using a different numbering system, since the locations of their CDRs (31-35B, 50-65 and 95-102) are different from those of the light chains. CDRL1 starts right after the first invariant Cys 23 of light chains, while CDRH1 is eight amino acid residues away from the first invariant Cys 22 of heavy chains. During the past 30 years, the Kabat database has grown to include nucleotide sequences, sequences of T cell receptors for antigens (TCR),

major histocompatibility complex (MHC) class I and II molecules and other proteins of immunological interest. It has been used extensively by immunologists to derive useful structural and functional information from the primary sequences of these proteins.

Synonyms: Kabat Database

Resource Type: database, data or information resource

Keywords: functional, align, alignment, amino acid, antibody, antigen, biological, cdr, chain, class i, class ii, combining, complementarity, complex, delineation, heavy, histocompatibility, human, immunological, immunological database, light, macromolecule, mhc, molecule, nucleotide, position, protein, receptor, region, sequence, structural, t cell

Resource Name: Kabat Database of Sequences of Proteins of Immunological Interest

Resource ID: SCR_006465

Alternate IDs: nif-0000-21233

Record Creation Time: 20220129T080236+0000

Record Last Update: 20260725T191141+0000

Ratings and Alerts

No rating or validation information has been found for Kabat Database of Sequences of Proteins of Immunological Interest.

No alerts have been found for Kabat Database of Sequences of Proteins of Immunological Interest.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 2 mentions in open access literature.

Listed below are recent publications. The full list is available at [SPARC SAWG](#) .

Hussain A, et al. (2009) Chimeric IgG4 PR3-ANCA induces selective inflammatory responses from neutrophils through engagement of Fcγ receptors. Immunology, 128(2), 236.

Gupta V, et al. (2005) Diagnosis and management of chronic pancreatitis. Postgraduate medical journal, 81(958), 491.