HLA Class II Histocompatibility Antigen, DRB1-4 Beta Chain (HLA-DRB1) Human Recombinant Protein

PRODUCT OVERVIEW

Product Name	HLA class II histocompatibility antigen, DRB1-4 beta chain (HLA-DRB1), Recombinant Protein
Full Product Name	Recombinant Human HLA class II histocompatibility antigen, DRB1-4 beta chain (HLA-DRB1), partial
Product Gene Name	HLA-DRB1 recombinant protein
Sequence	G DTRPRFLEQV KHECHFFNGT ERVRFLDRYF YHQEEYVRFD SDVGEYRAVT ELGRPDAEYW NSQKDLLEQK RAAVDTYCRH NYGVGESFTV QRRVYPEVTV YPAKTQPLQH HNLLVCSVNG FYPGSIEVRW FRNGQEEKTG VVSTGLIQNG DWTFQTLVML ETVPRSGEVY TCQVEHPSLT SPLTVEWRAR SESAQSK
Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)
Preparation and Storage	Store at -20 degrees C. For long-term storage, store at -20 degrees C or -80 degrees C. Store working aliquots at 4 degrees C for up to one week. Repeated freezing and thawing is not recommended.
Molecular Weight	30,112 Da
Sequence Positions	30-227
Tag Information	This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information.
Sterility	Sterile filter available upon request.
Endotoxin	Low endotoxin available upon request.
OMIM	142857
3D Structure	ModBase 3D Structure for P13760
Species	Human
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for HLA-DRB1 recombinant protein	MBS1258226 is a recombinant protein targeting HLA-DRB1. Also known as Recombinant Human HLA class II histocompatibility antigen, DRB1-4 beta chain (HLA-DRB1), partial. Host: E Coli or Yeast or Baculovirus or Mammalian Cell.
Other Notes	Small volumes of HLA-DRB1 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for HLA-DRB1. It may not necessarily be applicable to this product.

NCBI GI #	122253
NCBI GeneID	3123
NCBI Accession #	P13760.1
UniProt Primary Accession #	P13760

UniProt Secondary Accession #	O19717; O19739; P13759; Q29875; Q30145; Q9GIX9; Q9GIY4; Q9MY13; Q9XRY5
UniProt Related Accession #	P01911; P01912; P04229; P20039; Q29974; Q30134; Q30167; Q5Y7A7; Q95IE3; Q9GIY3
NCBI Official Full Name	HLA class II histocompatibility antigen, DRB1-4 beta chain
NCBI Official Synonym Full Names	major histocompatibility complex, class II, DR beta 1
NCBI Official Symbol	HLA-DRB1
NCBI Official Synonym Symbols	SS1; DRB1; HLA-DRB; HLA-DR1B
UniProt Protein Name	HLA class II histocompatibility antigen, DRB1-4 beta chain
UniProt Synonym Protein Names	MHC class II antigen DRB1*4; DR-4; DR4
Protein Family	HLA class II histocompatibility antigen
UniProt Gene Name	HLA-DRB1
UniProt Synonym Gene Names	DR-4; DR4
NCBI Protein Information	major histocompatibility complex, class II, DR beta 1
NCBI Summary for HLA-DRB1	HLA-DRB1 belongs to the HLA class II beta chain paralogs. The class II molecule is a heterodimer consisting of an alpha (DRA) and a beta chain (DRB), both anchored in the membrane. It plays a central role in the immune system by presenting peptides derived from extracellular proteins. Class II molecules are expressed in antigen presenting cells (APC: B lymphocytes, dendritic cells, macrophages). The beta chain is approximately 26-28 kDa. It is encoded by 6 exons. Exon one encodes the leader peptide; exons 2 and 3 encode the two extracellular domains; exon 4 encodes the transmembrane domain; and exon 5 encodes the cytoplasmic tail. Within the DR molecule the beta chain contains all the polymorphisms specifying the peptide binding specificities. Hundreds of DRB1 alleles have been described and typing for these polymorphisms is routinely done for bone marrow and kidney transplantation. DRB1 is expressed at a level five times higher than its paralogs DRB3, DRB4 and DRB5. DRB1 is present in all individuals. Allelic variants of DRB1 are linked with either none or one of the genes DRB3, DRB4 and DRB5. There are 4 related pseudogenes: DRB2, DRB6, DRB7, DRB8 and DRB9. [provided by RefSeq, Jul 2008]
UniProt Comments for HLA-DRB1	Binds peptides derived from antigens that access the endocytic route of antigen presenting cells (APC) and presents them on the cell surface for recognition by the CD4 T-cells. The peptide binding cleft accommodates peptides of 10-30 residues. The peptides presented by MHC class II molecules are generated mostly by degradation of proteins that access the endocytic route; where they are processed by lysosomal proteases and other hydrolases. Exogenous antigens that have been endocytosed by the APC are thus readily available for presentation via MHC II molecules; and for this reason this antigen presentation pathway is usually referred to as exogenous. As membrane proteins on their way to degradation in lysosomes as part of their normal turn-over are also contained in the endosomal/lysosomal compartments; exogenous antigens must compete with those derived from endogenous components. Autophagy is also a source of endogenous peptides; autophagosomes constitutively fuse with MHC class II loading compartments. In addition to APCs; other cells of the gastrointestinal tract; such as epithelial cells; express MHC class II molecules and CD74 and act as APCs; which is an unusual trait of the GI tract. To produce a MHC class II molecule that presents an antigen; three MHC class II molecules (heterodimers of an alpha and a beta chain) associate with a CD74 trimer in the ER to form a heterononamer. Soon after the entry of this complex into the endosomal/lysosomal system where antigen processing occurs; CD74 undergoes a sequential degradation by various proteases; including CTSS and CTSL; leaving a small fragment termed CLIP (class-II-associated invariant chain peptide). The removal of CLIP is facilitated by HLA-DM via direct binding to the alpha-beta-CLIP complex so that CLIP is released. HLA-DM stabilizes MHC class II molecules until primary high affinity antigenic peptides are bound. The MHC II molecule bound to a peptide is then transported to the cell membrane surface. In B-cells; the interaction between HLA-DM and MHC class II molecules is regulated by HLA-DO. Primary dendritic cells (DCs) also to express HLA-DO. Lysosomal microenvironment has been implicated in the regulation of antigen loading into MHC II molecules; increased acidification produces increased proteolysis and efficient peptide loading.
Research Articles on HLA-DRB1	**1.** There are hundreds of polymorphisms of HLA-DRB1 which have been associated with different autoimmune disorders as well as with immune response to infection and vaccines. It is possible that the interaction of specific HLA with pathogenic antigens is one of the keys favoring (or protecting) toward the development of an autoimmune disease.[Review]

Precautions	All of MyBioSource's Products are for scientific laboratory research purposes and are not for diagnostic, therapeutics, prophylactic or in vivo use. Through your purchase, you expressly represent and warrant to MyBioSource that you will properly test and use any Products purchased from MyBioSource in accordance with industry standards. MyBioSource and its authorized distributors reserve the right to refuse to process any order where we reasonably believe that the intended use will fall outside of our acceptable guidelines.
Disclaimer	While every efforts were made to ensure the accuracy of the information provided in this datasheet, MyBioSource will not be liable for any omissions or errors contained herein. MyBioSource reserves the right to make changes to this datasheet at any time without prior notice. It is the responsibility of the customer to report product performance issues to MyBioSource within 30 days of receipt of the product. Please visit our Terms & Conditions page for more information.
Product Note	Select online data sheet information is drawn from bioinformatics databases, occasionally resulting in ambiguous or non-relevant product information. It is the responsibility of the customer to review, verify, and evaluate the information to make sure it matches their requirements before purchasing the kit. Our ELISA Kit assays are dynamic research tools and sometimes they may be updated and improved. If the format of this assay is important to you then please request the current manual or contact our technical support team with a presales inquiry before placing an order. We will confirm the current details of the assay. We cannot guarantee the sample manual posted online is the most current manual, it is intended to serve as an example only. Please refer to the instructions For Use provided with the assay kit for precise details.

For Research Use Only. Not for use in diagnostic or therapeutic procedures.

MyBioSource | Tel: +1.858.633.0165 | Fax: +1.858.633.0166 | mybiosource.com/contact-us
Online datasheet: https://www.mybiosource.com/recombinant-protein/hla-class-ii-histocompatibility-antigen-drb1-4-beta-chain-hla-drb1/1258226