

Recombinant human HLA class II histocompatibility antigen, DR alpha chain protein

Catalog No: #AP72364

Orders: order@signalwayantibody.com

Package Size: #AP72364-1 20ug #AP72364-2 100ug #AP72364-3 1mg

Support: tech@signalwayantibody.com

Description

Product Name	Recombinant human HLA class II histocompatibility antigen, DR alpha chain protein
Brief Description	Recombinant Protein
Host Species	E.coli
Purification	Greater than 90% as determined by SDS-PAGE.
Immunogen Description	Expression Region:28-254aaSequence Info:Partial
Other Names	MHC class II antigen DRA
Accession No.	P01903
Uniprot	P01903
GeneID	3122;
Calculated MW	29.7 kDa
Tag Info	N-terminal 6xHis-tagged
Target Sequence	EEHVIIQAEFYLNPDQSGEFMFDFDGDGEIFHVDMAKKETVWRLEEFGRFASFEAQGALANIAVDKANLEIMTKR SNYTPITNVPPEVTVLNTPVELREPNVLCIFDKFTPPVVNVTLWRNGKPVTTGVSETVFLPREDHLFRKFHYL PFLPSTEDVYDCRVEHWGLDEPLLKHWFEFDAPSPLPETTENVVICALGLTVGLVGIIGTIFIIGKGVKRSNAAERR GPL
Formulation	Tris-based buffer50% glycerol
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C,-80°C. The shelf life of lyophilized form is 12 months at -20°C,-80°C.Notes:Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.

Background

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 heterotrimer. 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 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.

References

Sequence of an HLA-DR alpha-chain cDNA clone and intron-exon organization of the corresponding gene. Lee J.S., Trowsdale J., Travers P.J., Carey J., Grosveld F., Jenkins J., Bodmer W.F. *Nature* 299:750-752(1982) Research Topic: Immunology

Note: This product is for in vitro research use only