

Product datasheet

Recombinant Human HLA-DR protein ab177661

1 Image

Description

Product name	Recombinant Human HLA-DR protein
Purity	> 90 % SDS-PAGE.
Expression system	Escherichia coli
Accession	P01903
Protein length	Protein fragment
Animal free	No
Nature	Recombinant
Species	Human
Sequence	<pre> MGSSHHHHHH SSGLVPRGSH MIKEEHVIQ AEFYLNPDQS GEFMFDFDGD EIFHVDMAKK ETVWRLEEFGRFASFEAQGANLANIAVDKAN LEIMTKRSNYTPITNVPPEVTVLTNSPVELREPNVLICFI DKFTPPVVNV TWLRNGKPVT TGVSETVFLP REDHLFRKFHYLPFLPSTEDVYDCRVEHWG LDEPLLKHWEFDAPSPLPETTE </pre>
Predicted molecular weight	24 kDa including tags
Amino acids	26 to 216
Tags	His tag N-Terminus
Additional sequence information	Extracellular domain. (NCBI Accession No.: NP_061984)

Specifications

Our [Abpromise guarantee](#) covers the use of **ab177661** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	Mass Spectrometry
	SDS-PAGE
Mass spectrometry	MALDI-TOF
Form	Liquid

Preparation and Storage

Stability and Storage

Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.

pH: 8.00

Constituents: 0.32% Tris HCl, 0.88% Sodium chloride, 10% Glycerol, 0.02% DTT

General Info

Function

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 an 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.

Sequence similarities

Belongs to the MHC class II family.
Contains 1 Ig-like C1-type (immunoglobulin-like) domain.

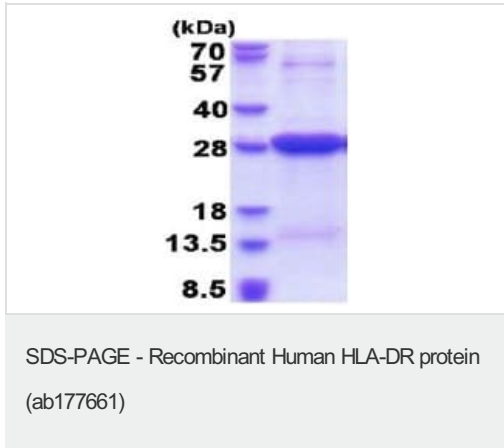
Post-translational modifications

Ubiquitinated by MARCH1 or MARCH8 at Lys-244 leading to down-regulation of MHC class II. When associated with ubiquitination of the beta subunit of HLA-DR: HLA-DRB4 'Lys-254', the down-regulation of MHC class II may be highly effective.

Cellular localization

Cell membrane. Endoplasmic reticulum membrane. Golgi apparatus > trans-Golgi network membrane. Endosome membrane. Lysosome membrane. Late endosome membrane. The MHC class II complex transits through a number of intracellular compartments in the endocytic pathway until it reaches the cell membrane for antigen presentation.

Images



15% SDS-PAGE analysis of ab177661 (3 µg)

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