



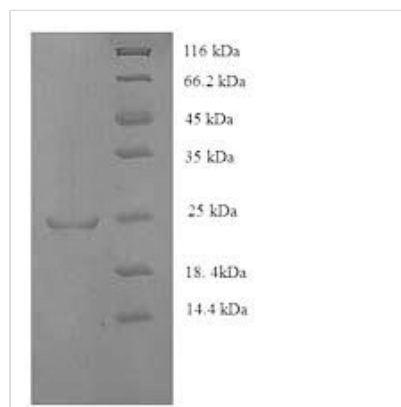
# Recombinant Human HLA class II histocompatibility antigen, DQ alpha 1 chain (HLA-DQA1), partial

<b>Product Code</b>	CSB-EP365686HU
<b>Relevance</b>	<p>Binds peptides derived from antigens that access the endocytic route of antigen presenting cells (APC) and presents th 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 mbrane 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 syst 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 roval 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 mbrane 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.</p>
<b>Abbreviation</b>	Recombinant Human HLA-DQA1 protein, partial
<b>Storage</b>	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.
<b>Uniprot No.</b>	P01909
<b>Alias</b>	DC-1 alpha chainDC-alphaHLA-DCAMHC class II DQA1



<b>Product Type</b>	Recombinant Protein
<b>Immunogen Species</b>	Homo sapiens (Human)
<b>Purity</b>	Greater than 90% as determined by SDS-PAGE.
<b>Sequence</b>	EDIVADHVASYGVNLYQSYGPSGQYTHEFDGDEQFYVDLGRKETVWCLPVLR QFRFDPQFALTNI AVLKHNLSLIKRSNSTAATNEVPEVTVFSKSPVTLGQPNIL ICLVDNIFPPVVNITWLSNGHSVTEGVSETSFSLKSDHSFFKISYLTLLPSAEES YDCKVEHWGLDKPLLKHWEPEIPAPMSE
<b>Research Area</b>	Immunology
<b>Source</b>	E.coli
<b>Target Names</b>	HLA-DQA1
<b>Expression Region</b>	24-213aa
<b>Notes</b>	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
<b>Tag Info</b>	N-terminal 6xHis-tagged
<b>Mol. Weight</b>	25.4kDa
<b>Protein Length</b>	Extracellular Domain

#### Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

#### Description

Amino acids 24-213 form the expressed segment for recombinant Human HLA-DQA1. The calculated molecular weight for this HLA-DQA1 protein is 25.4 kDa. The HLA-DQA1 protein was expressed in e.coli. The N-terminal 6xHis tag was fused into the coding gene segment of HLA-DQA1, making it easier to detect and purify the HLA-DQA1 recombinant protein in the later stages of expression and purification.

The human HLA class II histocompatibility antigen, DQ alpha 1 chain (HLA-DQA1) is a subunit of the HLA class II complex, which is involved in presenting antigens to immune cells. HLA-DQA1 plays a crucial role in the immune system. HLA-DQA1 is expressed on the surface of antigen-presenting cells, such as dendritic cells, macrophages, and B cells. It interacts with the beta chain (HLA-DQB1) to form a heterodimer, creating a binding groove for the presentation of antigenic peptides to CD4<sup>+</sup> T cells. This process is essential for the activation of



the adaptive immune response. Research on HLA-DQA1 focuses on understanding its role in antigen presentation, immune response regulation, and its association with autoimmune diseases and susceptibility to infections.

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**Reconstitution**

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL. We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

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**Shelf Life**

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