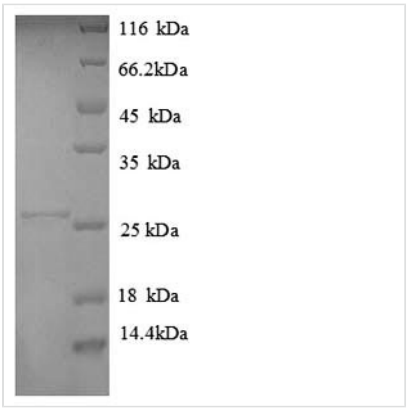
Recombinant Human HLA class II histocompatibility antigen, DP alpha 1 chain (HLA-DPA1), partial

Product Code	CSB-RP148194h
Relevance	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.
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.
Uniprot No.	P20036
Alias	DP(W3)DP(W4)HLA-SB alpha chain;MHC class II DP3-alphaMHC class II DPA1
Product Type	Recombinant Protein

Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	AGAIKADHVSTYAAFVQTHRPTGEFMFEFDEDEMFYVDLDKKETVWHLEEFG QAFSFEAQGGLANIAILNNNLNTLIQRSNHTQATNDPPEVTVFPKEPVELGQPN TLICHIDKFFPPVLNVTWLCNGELVTEGVAESLFLPRTDYSFHKFHYLTFVPSAE DFYDCRVEHWGLDQPLLKHWEAQEPIQMPETTE
Lead Time	3-7 business days
Research Area	Immunology
Source	E.coli
Gene Names	HLA-DPA1
Expression Region	29-222aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	26.3kDa
Protein Description	Extracellular Domain

Image



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

Description

The gene fragment corresponding to the 29-222aa of the human HLA-DPA1 protein was synthesized, with appropriate restriction sites suitable for in-frame cloning into an expression vector, with N-terminal 6xHis tag. The E.coli was transformed with the expression vector, and the clone was expressed upon certain induction. After the induced cell centrifugation, the recombinant protein was purified from the cell extract and presented as N-terminal 6xHis-tagged fusion. This recombinant human HLA-DPA1 protein's purity is greater than 90% assayed by SDS-PAGE. The HLA-DPA1 protein ran to a band of about 26 kDa molecular weight on the gel.

HLA-DPA1, also known as HLA-DP1A, HLASB or DPA1, belongs to the HLA class II alpha chain paralogues. HLA-DPA1 belongs to the HLA class II alpha chain paralogues. This class II molecule is a heterodimer consisting of an alpha (DPA) and a beta (DPB) chain, 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). HLA-DPA1 function as an MHC class II receptor to participate in immune response and antigenic peptides presentation. Clinical study on adrenocortical tumors (ACT) indicated low expression of HLA-DPA1 was associated with poor prognosis. HLA-DPA1 and several other MHC class II genes' down-regulation were involved as they function in antigen presentation.

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.