

Datasheet for ABIN3088174

HLA-DRB1 Protein (AA 30-227) (His tag)[Go to Product page](#)**1** Image

Overview

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| Quantity: | 1 mg |
| Target: | HLA-DRB1 |
| Protein Characteristics: | AA 30-227 |
| Origin: | Human |
| Source: | Insect Cells |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This HLA-DRB1 protein is labelled with His tag. |
| Application: | SDS-PAGE (SDS), Western Blotting (WB), ELISA, Crystallization (Crys) |

Product Details

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| Sequence: | <p>GDTRPRFLWQ LKFECHFFNG TERVRLERC IYNQEE SVRF DSDVGEYRAV TELGRPD AEY WNSQKDLLEQ RRAAVDTYCR HNYGVGESFT VQRRVEPKVT VYPSKTQPLQ HHNLLVCSVS GFYPGSIEVR WFRNGQEEKA GVVSTGLIQN GDWTFQTLVM LETVPRSGEV YTCQVEHPSV TSPLTVEWRA RSESAQSK</p> <p>Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.</p> |
| Characteristics: | <ul style="list-style-type: none">• Made in Germany - from design to production - by highly experienced protein experts.• Human HLA-DRB1 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.• State-of-the-art algorithm used for plasmid design (Gene synthesis). <p>This protein is a made to order protein and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.</p> |

Product Details

The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

The concentration of our recombinant proteins is measured using the absorbance at 280nm. The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.

The concentration of the protein is calculated using its specific absorption coefficient. We use the ExPASy's protparam tool to determine the absorption coefficient of each protein.

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| Purification: | Two step purification of proteins expressed in baculovirus infected SF9 insect cells: <ol style="list-style-type: none">1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. Eluate fractions are analyzed by SDS-PAGE.2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot. |
| Purity: | >95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot. |
| Sterility: | 0.22 µm filtered |
| Endotoxin Level: | Protein is endotoxin free. |
| Grade: | Crystallography grade |

Target Details

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| Target: | HLA-DRB1 |
| Alternative Name: | HLA-DRB1 (HLA-DRB1 Products) |
| 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 |

Target Details

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., (Microbial infection) Acts as a receptor for Epstein-Barr virus on lymphocytes. {ECO:0000269|PubMed:11864610, ECO:0000269|PubMed:9151859}.

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| Molecular Weight: | 23.9 kDa Including tag. |
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| UniProt: | P04229 |
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| Pathways: | TCR Signaling , Positive Regulation of Peptide Hormone Secretion , Production of Molecular Mediator of Immune Response , CXCR4-mediated Signaling Events , Cancer Immune Checkpoints , Human Leukocyte Antigen (HLA) in Adaptive Immune Response |
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Application Details

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| Application Notes: | In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a |
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Application Details

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| | guarantee though. |
| Comment: | In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest. |
| Restrictions: | For Research Use only |

Handling

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| Format: | Liquid |
| Buffer: | 100 mM NaCL, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer. |
| Handling Advice: | Avoid repeated freeze-thaw cycles. |
| Storage: | -80 °C |
| Storage Comment: | Store at -80°C. |
| Expiry Date: | Unlimited (if stored properly) |

Images



Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process