Recombinant DQA1 protein (His tag)

Catalog Number	537409
Synonyms	DC-1 alpha chain; DC-alpha; HLA-DCA; MHC class II DQA1
Species	Human
Expression System	E. coli
Accession	P01909
Molecular Weight	Predictes a molecular mass of 23.39 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 24 kDa band.

Product Information

Sequence Region	24-216
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 24-216 aa (P01909) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant HLA-DQA1 Fragment (24-216): A high-purity, functional fragment of the HLA class II histocompatibility antigen DQ alpha 1 chain, encompassing the Ig-like C1-type domain. This product is engineered for researchers studying antigen presentation, immune recognition, and MHC class II-mediated pathways in human immunology. The full-length HLA-DQA1 protein, encoded by the HLA-DQA1 gene in Homo sapiens, functions as part of the MHC class II complex to bind peptides derived from endocytosed antigens and present them on the cell surface for recognition by CD4+ T-cells. This process is critical for initiating adaptive immune responses against exogenous pathogens. The protein's peptide-binding cleft accommodates peptides of 10-30 residues, and its loading is facilitated by compartments in the endocytic pathway, including endosomes and lysosomes, where proteases process antigens. HLA-DQA1 associates with beta chains and CD74 in the endoplasmic reticulum, forming a heterononamer that traffics through the Golgi apparatus, trans-Golgi network, endosomes, and lysosomes before reaching the cell membrane. This localization enables efficient antigen presentation, particularly in antigen-presenting cells like dendritic cells and B-cells, as well as in gastrointestinal tract cells, highlighting its role in both immunity and mucosal defense.