Recombinant HLAF protein (His tag)

Catalog Number	546908
Synonyms	CDA12; HLA F antigen; Leukocyte antigen F; MHC class I antigen F
Species	Human
Expression System	E. coli
Accession	P30511
Molecular Weight	Predictes a molecular mass of 34.40 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 37 kDa band.

Product Information

Sequence Region	22-305
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 22-305 aa (P30511) 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-F (22-305) Fragment is a high-purity protein encompassing the Ig-like C1-type domain (residues 206-296) of HLA class I histocompatibility antigen, alpha chain F. This fragment serves as an essential tool for investigating immune regulation, antigen presentation, and receptor interactions in human immunology research. HLA-F is a non-classical major histocompatibility class Ib molecule that plays critical roles in immune surveillance, tolerance, and inflammation. It functions in two distinct forms: as a peptide-bound heterotrimeric complex with beta-2 microglobulin that acts as a ligand for LILRB1 inhibitory receptor (important in maternal-fetal tolerance), and as a peptide-free open conformer that interacts with KIR3DS1 and KIR3DL2 receptors on NK and T cells. HLA-F is involved in triggering NK cell degranulation and anti-viral cytokine production through KIR3DS1 engagement, while inhibiting effector functions via KIR3DL2 interaction. The protein localizes to the cell membrane as a single-pass type I membrane protein and transits through endosomal pathways to lysosomes, where it participates in cross-presentation of exogenous antigens to CD8+ T cells. HLA-F also demonstrates neuroprotective functions in the peripheral nervous system by shielding motor neurons from astrocyte-induced toxicity.