Data Sheet (Cat.No.TMPK-01514)

TargetMol

HLA-E*01:03&B2M&Peptide (VMAPRTLVL) Monomer Protein, Human, MHC (His & Avi)

General Information

Synonyms:	sHLA-E;MHC class I antigen E;MHC HLA-E alpha-1;MHC;HLAE;QA1;MHC HLA-E alpha-2.1
Protein Construction:	Gly25-Ile305(HLA-E*01:03), Ile21-Met119(B2M) and VMAPRTLVL peptide
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P13747(HLA-E*01:03)&P61769(B2M)&VMAPRTLVL
Molecular Weight:	The protein has a predicted MW of 50.2 kDa. Due to glycosylation, the protein migrates to 52-60 kDa based on Tris-Bis PAGE result.

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95% as determined by Tris-Bis PAGE; > 95% as determined by HPLC
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS (pH 7.4). Typically, 8% trehalose is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

HLA-E is a nonclassical member of the major histocompatibility complex class I gene locus. HLA-E protein shares a high level of homology with MHC Ia classical proteins: it has similar tertiary structure, associates with β2-microglobulin, and is able to present peptides to cytotoxic lymphocytes. The main function of HLA-E under normal conditions is to present peptides derived from the leader sequences of classical HLA class I proteins, thus serving for monitoring of expression of these molecules performed by cytotoxic lymphocytes.

Reference

Kanevskiy L, et al. Dimorphism of HLA-E and its Disease Association. Int J Mol Sci. 2019 Nov 4;20(21):5496. doi: 10.3390/ijms20215496. PMID: 31690066; PMCID: PMC6862560.

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