Data Sheet (Cat.No.TMPK-01530)

TargetMol

HLA-A*02:01&B2M&LMP2 (CLGGLLTMV) Monomer Protein, Human, MHC (His & Avi), Biotinylated

General Information

Synonyms:	MHC;LMP-2;PSMB9;LMP2;Macropain chain 7;Proteasome chain 7;RMF;RING12
Protein Construction:	Gly25-Thr305(HLA-A*02:01),Ile21-Met119(B2M) and CLGGLLTMV peptide
Species:	Human
Expression Host:	HEK293 Cells
Accession:	A0A140T913(HLA-A*02:01)&P61769(B2M)&CLGGLLTMV
Molecular Weight:	The protein has a predicted MW of 50.3 kDa. Due to glycosylation, the protein migrates to 51-60 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 EU/μg 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.

Shipping:

In general, Lyophilized powders are shipping with blue ice. Solutions are shipping with dry ice.

Protein Background

The immunoproteasome, having been linked to neurodegenerative diseases and hematological cancers, has been shown to play an important role in MHC class I antigen presentation. The development of molecular probes that selectively inhibit the major catalytic subunit, LMP2, of the immunoproteasome,LMP2-rich cancer cells compared to LMP2-deficient cancer cells are more sensitive to growth inhibition by the LMP2-specific inhibitor, implicating an important role of LMP2 in regulating cell growth of malignant tumors that highly express LMP2.

Reference

Ho YK, et al. LMP2-specific inhibitors: chemical genetic tools for proteasome biology. Chem Biol. 2007 Apr;14(4): 419-30. doi: 10.1016/j.chembiol.2007.03.008. PMID: 17462577; PMCID: PMC5541682.

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