Data Sheet (Cat.No.TMPK-01535)

TargetMol

Chimeric HLA-A*02:01 (mα3) &B2M&LMP2 (CLGGLLTMV) Tetramer Protein, Human&Mouse, MHC

General Information

Synonyms:	Macropain chain 7;LMP2;Proteasome chain 7;RING12;PSMB9;MHC;RMF;LMP-2
Protein Construction:	Gly25-Thr206(Human HLA-A*02:01 α1&α2)&Asp207-Glu299(Mouse H-2Ld α3), Ile21-Met119 (B2M) and CLGGLLTMV peptide. Tetramer is assembled by biotinylated monomer and streptavidin.
Species:	Human & Mouse
Expression Host:	HEK293 Cells
Accession:	A0A140T913(Human HLA-A*02:01 α1&α2)&P01897(Mouse H-2Ld α3)&P61769(B2M) &CLGGLLTMV
Molecular Weight:	The protein has a predicted MW of 258 kDa. Due to glycosylation, the protein migrates to 260-265 kDa under Non reducing (N) condition based on Tris-Bis PAGE result.

QC Testing

Biological Activity:	Immobilized Chimeric HLA-A*02:01 (mα3) &B2M&LMP2 (CLGGLLTMV) Tetramer, His Tag at 2μg/ml (100μl/Well) on the plate. Dose response curve for Anti-HLA-A*02:01&B2M&LMP2 (CLGGLLTMV) Antibody, hFc Tag with the EC50 of 21.4ng/ml determined by ELISA.
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

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.