

Peptide Ready HLA-A*02:01&B2M Monomer Protein, Human, MHC (His & Avi)

General Information

Synonyms:	Peptide Ready;MHC;HLA-A*02:01
Protein Construction:	Gly25-Thr305(HLA-A*02:01) and Ile21-Met119(B2M)
Species:	Human
Expression Host:	HEK293 Cells
Accession:	A0A140T913(HLA-A*02:01)&P61769(B2M)
Molecular Weight:	The protein has a predicted MW of 48.10 kDa. Due to glycosylation, the protein migrates to 50-60 kDa based on Tris-Bis PAGE result.

QC Testing

Biological Activity:	Immobilized Human Peptide Ready HLA-A*02:01&B2M Monomer, His Tag at 1µg/ml (100µl/well) on the plate. Dose response curve for Anti-HLA class I (W6/32) Antibody, hFc tag with the EC50 of 7.4ng/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

Peptide Ready HLA-A*02:01&B2M Monomer is absent from peptide, namely peptide-receptive MHC. It can be loaded with antigenic peptides matching HLA-A*02:01. Peptide ready MHC molecules comprising human HLA alleles and B2M, which can be readily tetramerized and loaded with peptides of choice in a high-throughput manner.

Reference

Moritz A, et al. High-throughput peptide-MHC complex generation and kinetic screenings of TCRs with peptide-receptive HLA-A*02:01 molecules. *Sci Immunol*. 2019 Jul 19;4(37):eaav0860.

Sun Y, et al. Universal open MHC-I molecules for rapid peptide loading and enhanced complex stability across HLA allotypes. *bioRxiv [Preprint]*. 2023 Mar 18:2023.03.18.533266.

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