

HLA-A*02:01&B2M&AFP (FMNKFIYEI) Tetramer Protein, Human, MHC (His & Avi)

General Information

Synonyms:	MHC;FETA;AFP;Alpha-feto;AFPD;Alpha-1-fetoprotein;HPAFP;Alpha-fetoprotein
Protein Construction:	Gly25-Thr305(HLA-A*02:01),Ile21-Met119(B2M) and FMNKFIYEI peptide. Tetramer is assembled by biotinylated monomer and streptavidin.
Species:	Human
Expression Host:	HEK293 Cells
Accession:	A0A140T913(HLA-A*02:01)&P61769(B2M)&FMNKFIYEI
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 HLA-A*02:01&B2M&AFP (FMNKFIYEI) TCR at 2µg/ml (100µl/well) on the plate. Dose response curve for Human HLA-A*02:01&B2M&AFP (FMNKFIYEI) Tetramer, His Tag with the EC50 of 26.6ng/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

Alpha-fetoprotein (AFP), a specific liver cancer marker, T cells expressing AFP-CAR selectively degranulated, released cytokines, and lysed liver cancer cells that were HLA-A*02:01 /AFP while sparing cells from multiple tissue types that were negative for either expressed proteins. CAR T-cell immunotherapy targeting intracellular/secreted solid tumor antigens can elicit a potent antitumor response.

Reference

Liu H, et al. Targeting Alpha-Fetoprotein (AFP)-MHC Complex with CAR T-Cell Therapy for Liver Cancer. Clin Cancer Res. 2017 Jan 15;23(2):478-488. doi: 10.1158/1078-0432.CCR-16-1203. Epub 2016 Aug 17. PMID: 27535982.

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