

Synonym

HLA-A*0301 & B2M & KRASG12C (VVVGACGVGK)

Source

Biotinylated Human HLA-A*03:01&B2M&KRASG12C (VVVGACGVGK) Complex Protein(HLC-H82E3) is expressed from human 293 cells (HEK293). It contains AA Gly 25 - Thr 305 (HLA-A*03:01) & Ile 21 - Met 119 (B2M) & VVVGACGVGK peptide (Accession # [P04439](#) (HLA-A*03:01) & [P61769](#) (B2M) & VVVGACGVGK).

Predicted N-terminus: Gly 25 & Ile 21

Molecular Characterization

Biotinylated Human HLA-A*03:01&B2M&KRASG12C (VVVGACGVGK) Complex Protein is produced by co-expression of HLA and B2M loaded with KRASG12C peptide.

This protein carries a polyhistidine tag at the C-terminus, followed by an Avi tag (Avitag™).

The protein has a calculated MW of 35.9 kDa and 11.7 kDa. The protein migrates as 66 kDa, 55 kDa, 41-43 kDa, 34 kDa, 27 kDa and 11 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE) due to glycosylation.

Labeling

Biotinylation of this product is performed using Avitag™ technology. Briefly, the single lysine residue in the Avitag is enzymatically labeled with biotin.

Protein Ratio

Passed as determined by the HABA assay / binding ELISA.

Endotoxin

Less than 1.0 EU per µg by the LAL method.

Purity

>90% as determined by SDS-PAGE.

>95% as determined by SEC-MALS.

Formulation

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

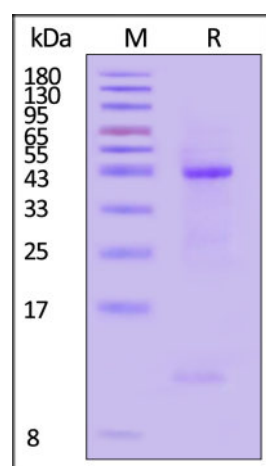
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

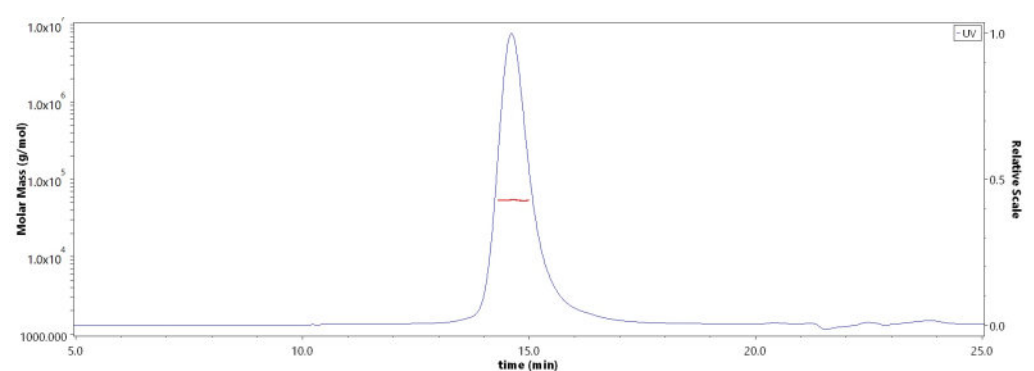
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



Biotinylated Human HLA-A*03:01&B2M&KRASG12C (VVVGACGVGK) Complex Protein on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With [Star Ribbon Pre-stained Protein Marker](#)).

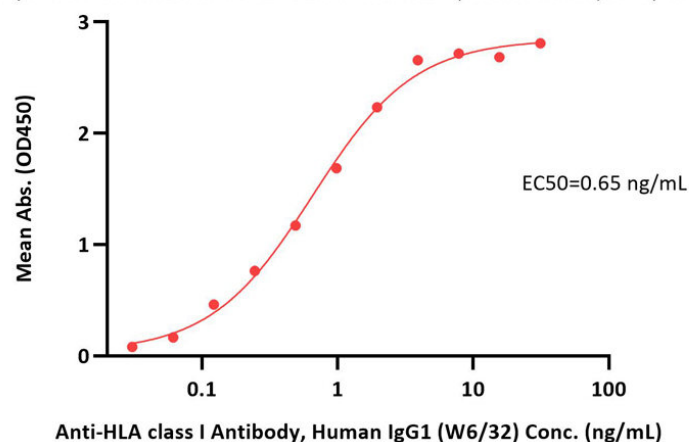
SEC-MALS



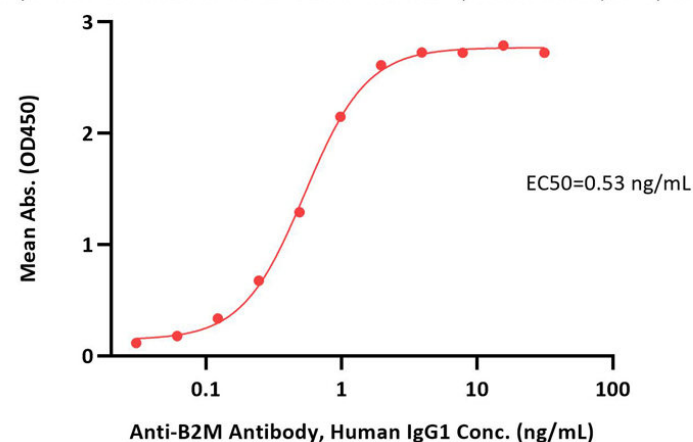
The purity of Biotinylated Human HLA-A*03:01&B2M&KRASG12C (VVVGACGVGK) Complex Protein (Cat. No. HLC-H82E3) is more than 95% and the molecular weight of this protein is around 45-65 kDa verified by SEC-MALS.

Bioactivity-ELISA

Biotinylated Human HLA-A*03:01&B2M&KRASG12C (VVVGACGVGK) Complex Protein ELISA
0.1 µg of Biotinylated Human HLA-A*03:01&B2M&KRASG12C (VVVGACGVGK) Complex Protein per well



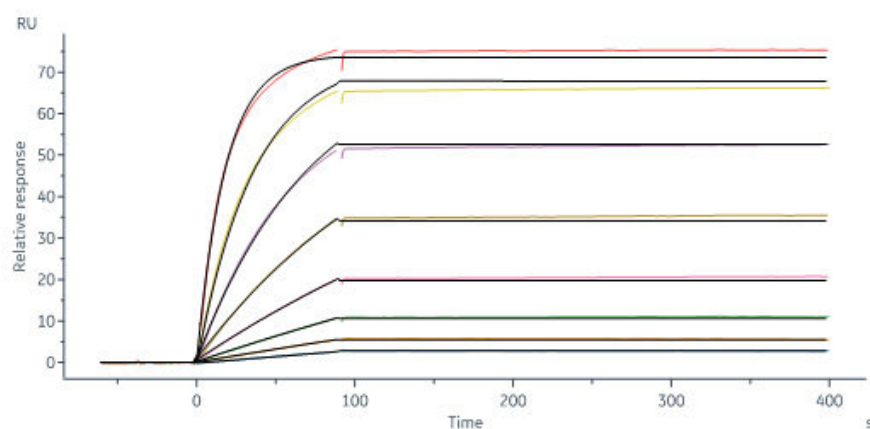
Biotinylated Human HLA-A*03:01&B2M&KRASG12C (VVVGACGVGK) Complex Protein ELISA
0.1 µg of Biotinylated Human HLA-A*03:01&B2M&KRASG12C (VVVGACGVGK) Complex Protein per well



Immobilized Biotinylated Human HLA-A*03:01&B2M&KRASG12C (VVVGACGVGK) Complex Protein (Cat. No. HLC-H82E3) at 1 µg/mL (100 µL/well) on streptavidin (Cat. No. STN-N5116) precoated (0.5 µg/well) plate can bind Anti-HLA class I Antibody, Human IgG1 (W6/32) with a linear range of 0.1-2 ng/mL (QC tested).

Immobilized Biotinylated Human HLA-A*03:01&B2M&KRASG12C (VVVGACGVGK) Complex Protein (Cat. No. HLC-H82E3) at 1 µg/mL (100 µL/well) on streptavidin (Cat. No. STN-N5116) precoated (0.5 µg/well) plate can bind Anti-B2M Antibody, Human IgG1 with a linear range of 0.1-1 ng/mL (Routinely tested).

Bioactivity-SPR



Biotinylated Human HLA-A*03:01&B2M&KRASG12C (VVVGACGVGK) Complex Protein (Cat. No. HLC-H82E3) captured on CM5 Chip via Anti-B2M antibody can bind Anti-HLA class I Antibody, Human IgG1 (W6/32) with an affinity constant of 0.0786 pM as determined in a SPR assay (Biacore 8K) (Routinely tested).

Background

The Kirsten rat sarcoma 2 viral oncogene homolog (KRAS) oncogene plays a critical role in the initiation and maintenance of pancreatic tumors and its signaling network represents a major target for therapeutic intervention. The Human HLA-A*0301 KRASG12C (VVVGACGVGK) complex protein is a complex of HLA-A*0301 of the MHC Class I, B2M, and VVVGACGVGK peptide of the KRASG12C.

Clinical and Translational Updates

Please contact us via TechSupport@acrobiosystems.com if you have any question on this product.