

### Synonym

HLA-A\*0301 & B2M & KRASG12D (VVVGADGVGK)

### Source

Biotinylated Human HLA-A\*03:01&B2M&KRASG12D (VVVGADGVGK) Complex Protein(HLD-H82E3) is expressed from human 293 cells (HEK293). It contains AA Gly 25 - Thr 305 (HLA-A\*03:01) & Ile 21 - Met 119 (B2M) & VVVGADGVGK peptide (Accession # [P04439-1](#) (HLA-A\*03:01) & [P61769-1](#) (B2M) & VVVGADGVGK).

Predicted N-terminus: Gly 25 & Ile 21

### Molecular Characterization

Biotinylated Human HLA-A\*03:01&B2M&KRASG12D (VVVGADGVGK) Complex Protein is produced by co-expression of HLA and B2M loaded with KRASG12D 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 40-43 kDa and 10 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

>95% as determined by SDS-PAGE.

>90% 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

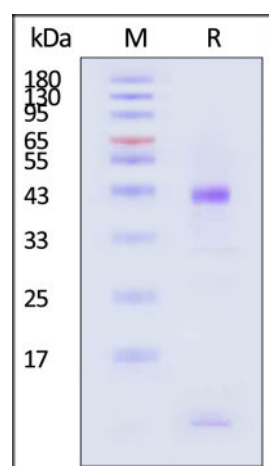
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

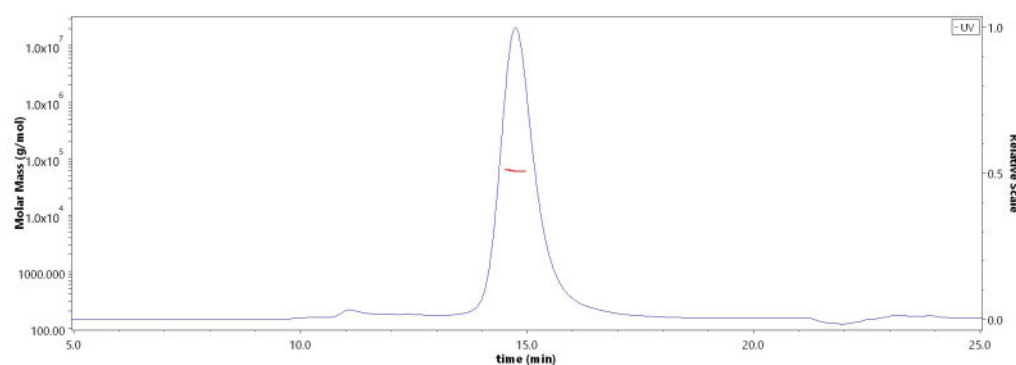
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

### SDS-PAGE



Biotinylated Human HLA-A\*03:01&B2M&KRASG12D (VVVGADGVGK) Complex Protein on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

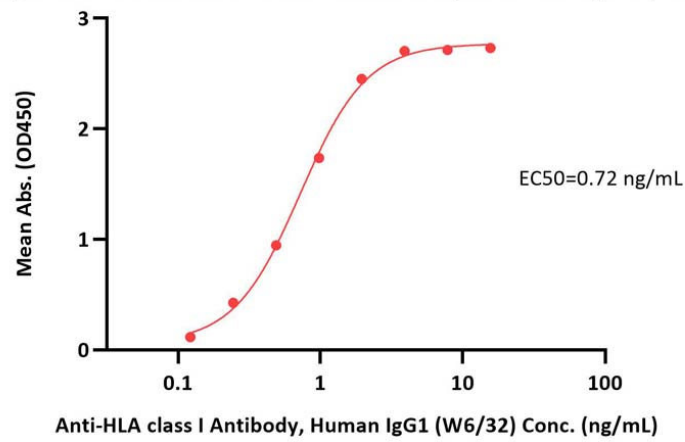
### SEC-MALS



The purity of Biotinylated Human HLA-A\*03:01&B2M&KRASG12D (VVVGADGVGK) Complex Protein (Cat. No. HLD-H82E3) is more than 90% and the molecular weight of this protein is around 45-65 kDa verified by SEC-MALS.

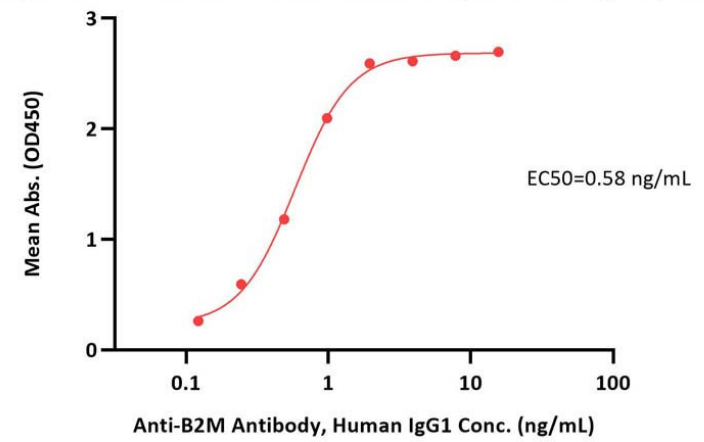
## Bioactivity-ELISA

**Biotinylated Human HLA-A\*03:01&B2M&KRASG12D (VVVGADGVGK) Complex Protein ELISA**  
0.1 µg of Biotinylated Human HLA-A\*03:01&B2M&KRASG12D (VVVGADGVGK) Complex Protein per well



Immobilized Biotinylated Human HLA-A\*03:01&B2M&KRASG12D (VVVGADGVGK) Complex Protein (Cat. No. HLD-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 0.1-1 ng/mL (QC tested).

**Biotinylated Human HLA-A\*03:01&B2M&KRASG12D (VVVGADGVGK) Complex Protein ELISA**  
0.1 µg of Biotinylated Human HLA-A\*03:01&B2M&KRASG12D (VVVGADGVGK) Complex Protein per well



Immobilized Biotinylated Human HLA-A\*03:01&B2M&KRASG12D (VVVGADGVGK) Complex Protein (Cat. No. HLD-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).

## 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\*0201 KRAS (KLVVVGAGGV) complex protein is a complex of HLA-A\*0201 of the MHC Class I, B2M, and KLVVVGAGGV peptide of the KRAS.

## Clinical and Translational Updates

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.