Biotinylated Human CD3 epsilon&CD3 delta Heterodimer Protein, Fc,His,Avitag™&Fc,Flag,Avitag™ (MALS verified)

Catalog # CDD-H82F6

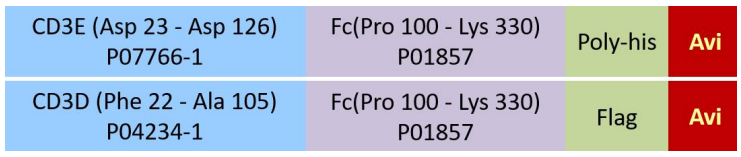
Synonym

CD3E & CD3D,CD3 delta & CD3 epsilon

Source

MABSol® Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His,Avitag&Fc,Flag,Avitag (CDD-H82F6) is expressed from human HEK293 cells. It contains AA Asp 23 - Asp 126 (CD3E) & Phe 22 - Ala 105 (CD3D) (Accession # P07766-1 (CD3E) & P04234-1 (CD3D)). It is the biotinylated form of Human CD3 epsilon & CD3 delta Protein.
Predicted N-terminus: Asp 23 (CD3E) & Phe 22 (CD3D)

Molecular Characterization



Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His,Avitag&Fc,Flag,Avitag is produced by co-expression of CD3E and CD3D, has a calculated MW of 45.1 kDa (CD3E) & 42.6 kDa (CD3D). Subunit CD3E is fused with a human IgG1 Fc fragment at the C-terminus, followed by an Avi tag (Avitag™), the polyhistidine tag is inserted in-between the Fc and Avi tags at the C-terminus and subunit CD3D contains a human IgG1 Fc fragment at the C-terminus, followed by an Avi tag (Avitag™), the flag tag is inserted in-between the Fc and Avi tags at the C-terminus. As a result of glycosylation, the heterodimer protein migrates as 50-60 kDa under reducing (R) condition.

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.

Purity

>90% 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

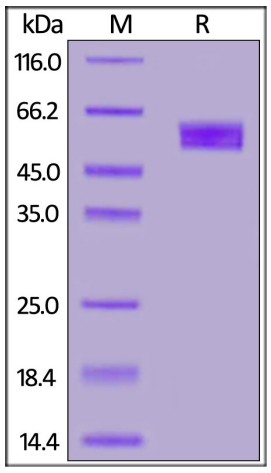
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

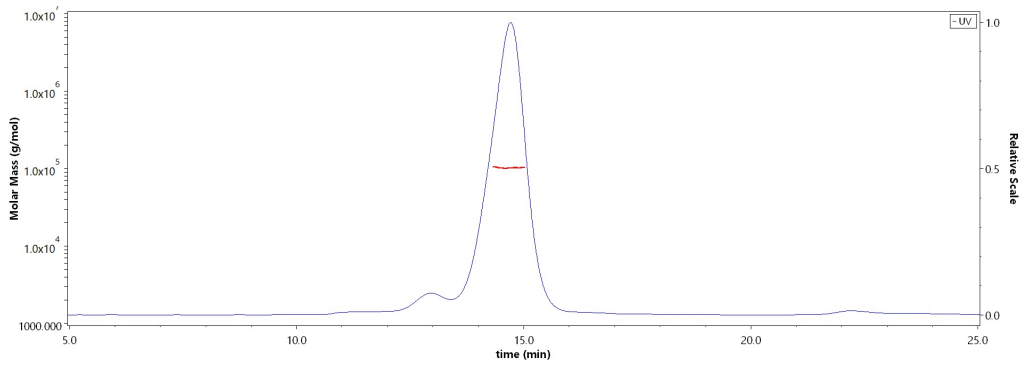
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His,Avitag&Fc,Flag,Avitag on SDS-PAGE under reducing (R) condition.

SEC-MALS

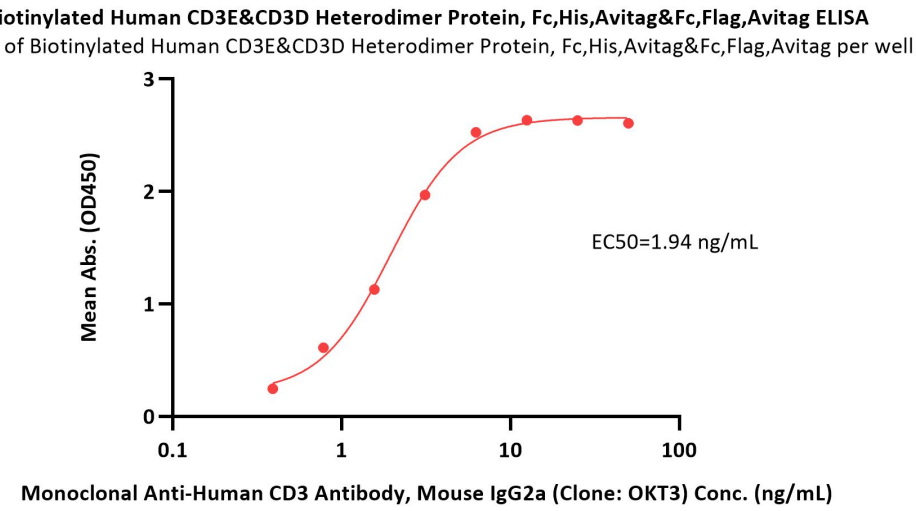


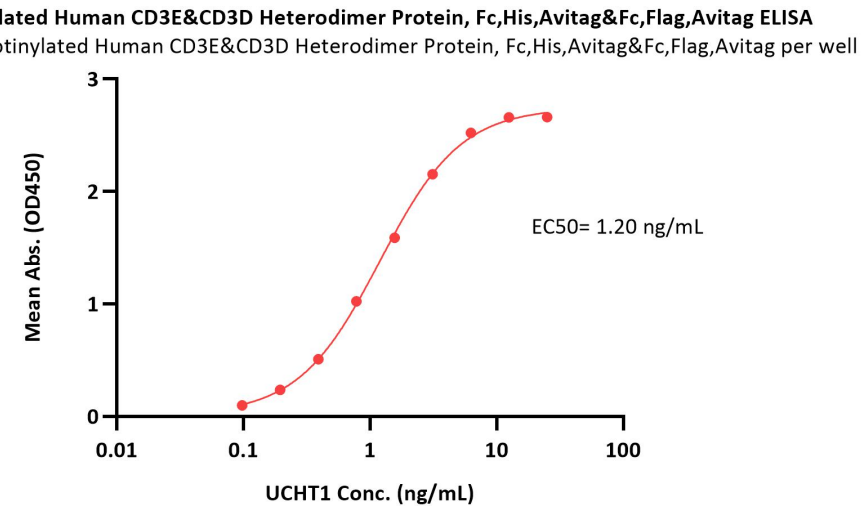
The purity of Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His,Avitag&Fc,Flag,Avitag (Cat. No. CDD-H82F6) is more than 90% and

The gel was stained with Coomassie Blue. The purity of the protein is greater than 90%.

the molecular weight of this protein is around 95-110 kDa verified by SEC-MALS.
Report

Bioactivity-ELISA

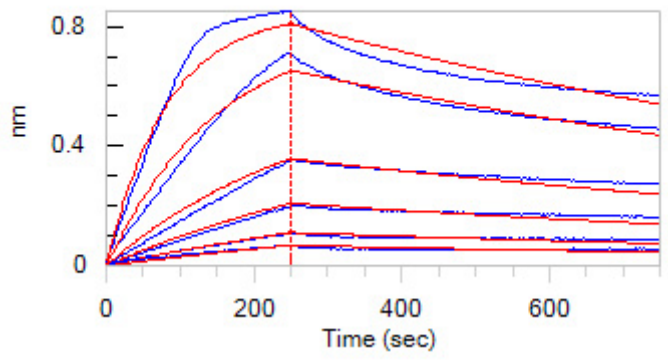




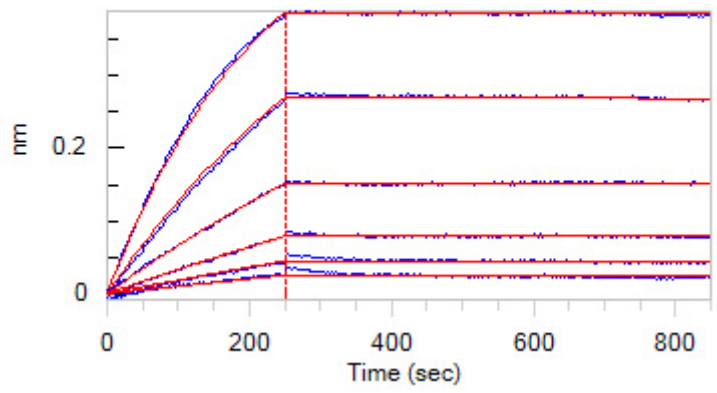
Immobilized Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His,Avitag&Fc,Flag,Avitag (Cat. No. CDD-H82F6) at 1 μg/mL (100 μL/well) on streptavidin (Cat. No. STN-N5116) precoated (0.5 μg/well) plate, can bind Monoclonal Anti-Human CD3 Antibody, Mouse IgG2a (Clone: OKT3) with a linear range of 0.4-3 ng/mL (QC tested).

Immobilized Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His,Avitag&Fc,Flag,Avitag (Cat. No. CDD-H82F6) at 1 μg/mL (100 μL/well) on streptavidin (Cat. No. STN-N5116) precoated (0.5 μg/well) plate, can bind UCHT1 with a linear range of 0.1-2 ng/mL (Routinely tested).

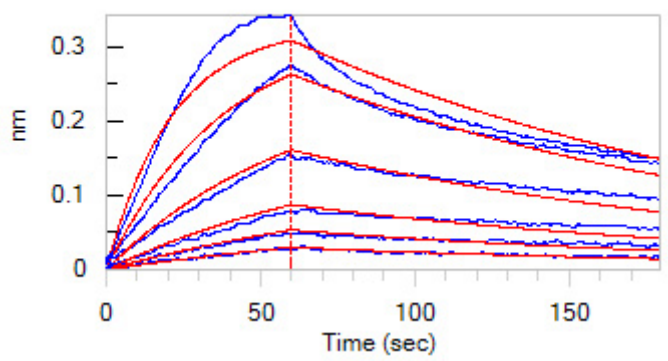
Bioactivity-BLI



Loaded Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His,Avitag&Fc,Flag,Avitag (Cat. No. CDD-H82F6) on SA Biosensor, can bind Bispecific CD3×BCMA T cell-engaging Antibody with an affinity constant of 1.4 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).



Loaded Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His,Avitag&Fc,Flag,Avitag (Cat. No. CDD-H82F6) on SA Biosensor, can bind UCHT1 with an affinity constant of 21.3 pM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).



Loaded Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His,Avitag&Fc,Flag,Avitag (Cat. No. CDD-H82F6) on SA Biosensor, can bind Monoclonal Anti-Human CD3 Antibody, Mouse IgG2a (Clone: OKT3), premium grade (Cat. No. CDE-M120a) with an affinity constant of 1.5 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

Background

T-cell surface glycoprotein CD3 delta & CD3 epsilon chain, also known as CD3D & CD3E or CD3D&CD3E respectively, are single-pass type I membrane proteins. CD3D, together with CD3- epsilon(CD3E) , CD3-gamma and CD3-zeta, and the T-cell receptor alpha/beta and gamma/delta heterodimers, forms the T cell receptor-CD3 complex. T cell receptor-CD3 complex plays an important role in coupling antigen recognition to several intracellular signal-transduction pathways.