

Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His Tag&Fc,Flag Tag, ultra sensitivity (primary amine labeling) (MALS verified)

Catalog # CDD-H82W0



Synonym

CD3E & CD3D,CD3 delta & CD3 epsilon

Source

MABSol® Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His Tag&Fc,Flag Tag, primary amine labeling (CDD-H82W0) is expressed from human HEK293 cells. It contains AA Asp 23 - Asp 126 (CD3E) & Phe 22 - Ala 105 (CD3D) (Accession # [NP_000724.1](#) (CD3E) & [NP_000723.1](#) (CD3D)). It is the biotinylated form of Human CD3E&CD3D Heterodimer Protein, Fc,His Tag&Fc,Flag Tag (CDD-H52W0).
Predicted N-terminus: Asp 23 (CD3E) & Phe 22 (CD3D)

Molecular Characterization

CD3E (Asp 23 - Asp 126) NP_000724.1	Fc(Pro 100 - Lys 330) P01857	Poly-his
CD3D (Phe 22 - Ala 105) NP_000723.1	Fc(Pro 100 - Lys 330) P01857	Flag

The subunit CD3E carries a human IgG1 Fc fragment at the C-terminus, followed by a polyhistidine tag. The subunit CD3D carries a human IgG1 Fc fragment at the C-terminus, followed by a flag tag. The protein has a calculated MW of 39.2 kDa (CD3E) and 37.5 kDa (CD3D) . The protein migrates as 45-55 kDa on a SDS-PAGE gel under reducing (R) condition due to glycosylation.

Labeling

The primary amines in the side chains of lysine residues and the N-terminus of the protein are conjugated with biotins using standard chemical labeling method. A standard biotin reagent (13.5 angstroms) is used in this product.

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

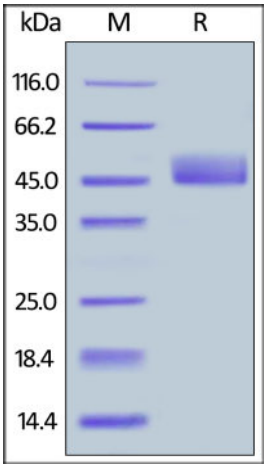
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

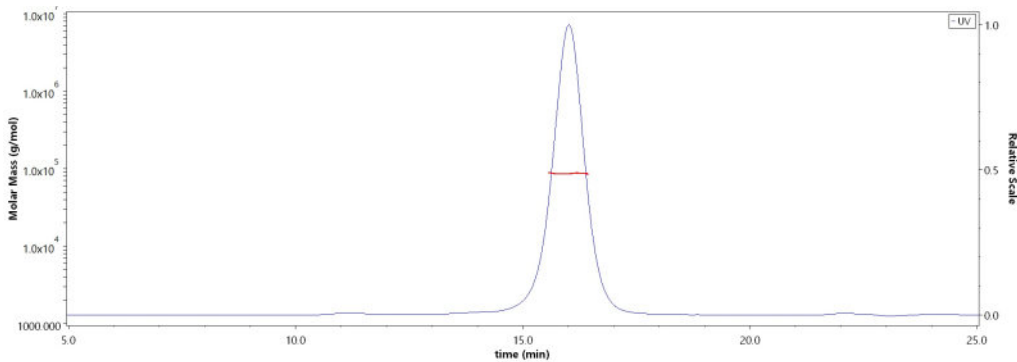
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His Tag&Fc,Flag Tag, primary amine labeling on SDS-PAGE under reducing (R) condition. The

SEC-MALS



The purity of Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His Tag&Fc,Flag Tag, primary amine labeling (Cat. No. CDD-H82W0) is more

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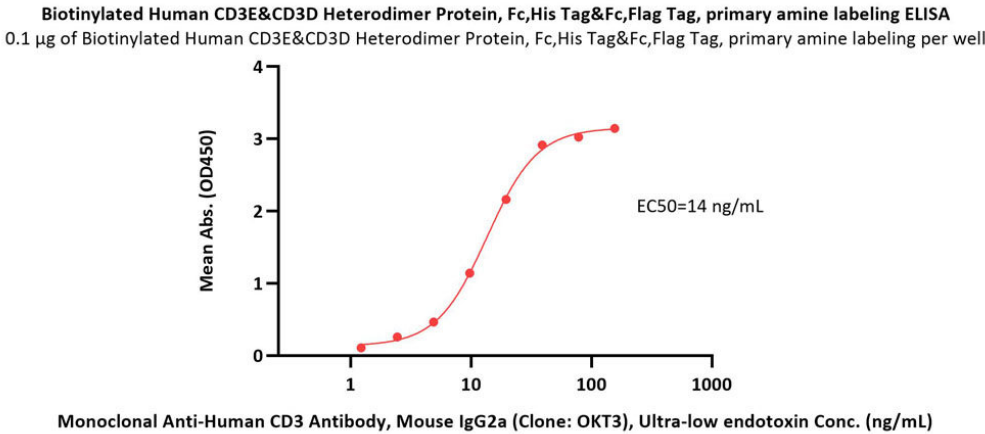


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gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

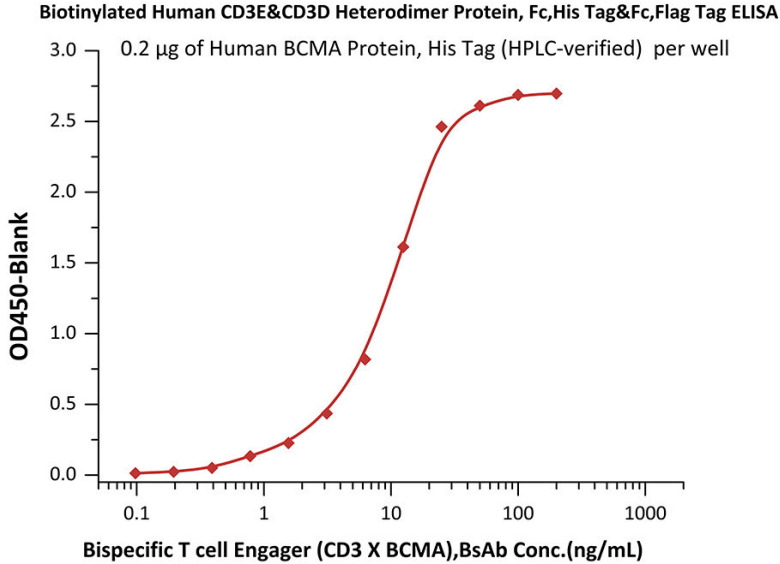
than 90% and the molecular weight of this protein is around 80-95 kDa verified by SEC-MALS.

[Report](#)

Bioactivity-ELISA

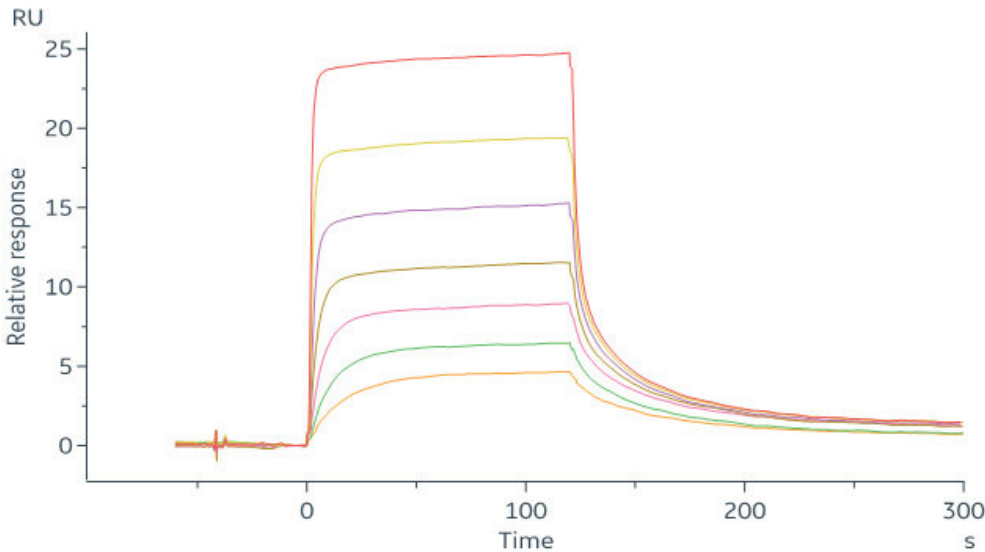


Immobilized Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His Tag&Fc,Flag Tag, primary amine labeling (Cat. No. CDD-H82W0) at 1 µg/mL (100 µL/well)on streptavidin (Cat. No. STN-N5116) precoated (0.2 µg/well) plate, can bind Monoclonal Anti-Human CD3 Antibody, Mouse IgG2a (Clone: OKT3), premium grade (Cat. No. CDE-M120a) with a linear range of 2-20 ng/mL (QC tested).

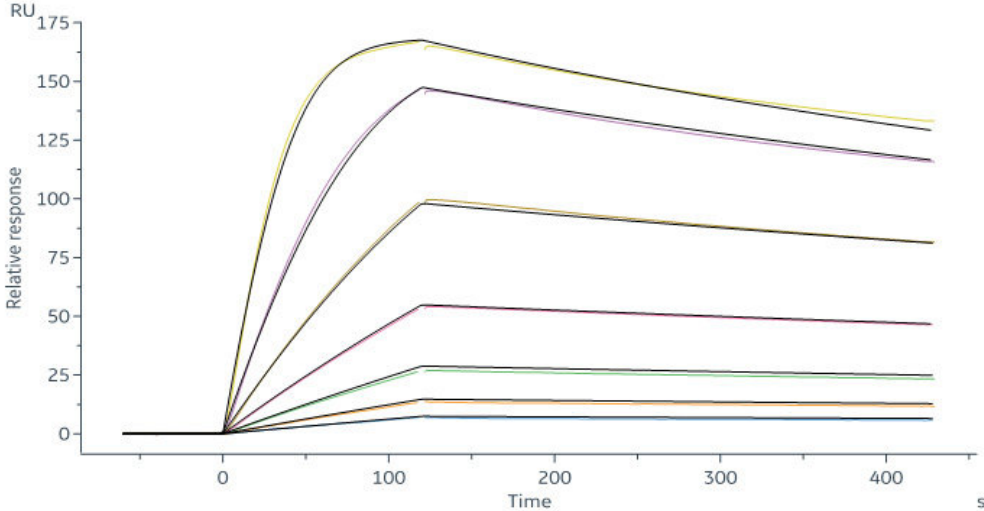


Immobilized Human BCMA Protein, His Tag (HPLC-verified) (Cat. No.BCA-H522y) at 2 µg/mL, add increasing concentrations of Bispecific T cell Engager (CD3 X BCMA) and then add Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His Tag&Fc,Flag Tag, primary amine labeling (Cat. No. CDD-H82W0) at 1 µg/mL. Detection was performed using HRP-conjugated streptavidin with sensitivity of 0.39 ng/mL (Intact assay, Routinely tested).

Bioactivity-SPR



Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His Tag&Fc,Flag Tag, ultra sensitivity (primary amine labeling) (MALS verified) (Cat. No. CDD-H82W0) captured on Biotin CAP-Series S Sensor Chip can bind Monoclonal Anti-Human CD3 Antibody, Mouse IgG2a (Clone: OKT3) with an affinity constant of 17.9 nM as determined in a SPR assay (Biacore 8K) (Routinely tested).



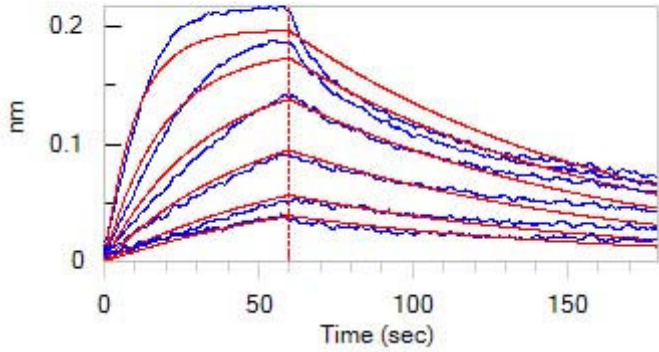
Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His Tag&Fc,Flag Tag, ultra sensitivity (primary amine labeling) (MALS verified) (Cat. No. CDD-H82W0) captured on Biotin CAP-Series S Sensor Chip can bind Bispecific T-cell Engager (CD3 X BCMA) with an affinity constant of 0.45 nM as determined in a SPR assay (Biacore 8K) (Routinely tested).

Bioactivity-BLI

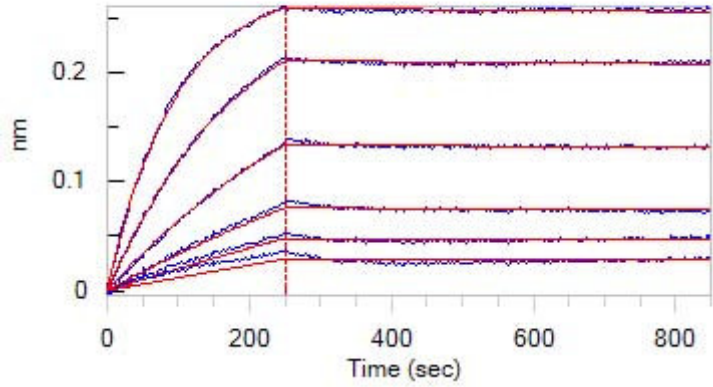
Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His Tag&Fc,Flag Tag, ultra sensitivity (primary amine labeling) (MALS verified)



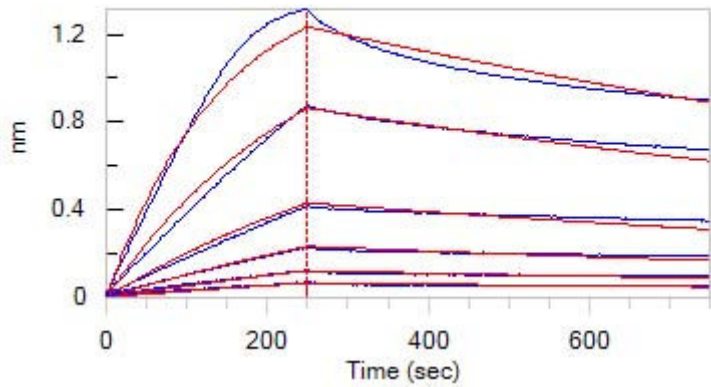
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Loaded Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His Tag&Fc,Flag Tag, primary amine labeling (Cat. No. CDD-H82W0) on SA Biosensor, can bind Monoclonal Anti-Human CD3 Antibody, Mouse IgG2a (Clone: OKT3), premium grade (Cat. No. CDE-M120a) with an affinity constant of 1.07 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).



Loaded Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His Tag&Fc,Flag Tag, primary amine labeling (Cat. No. CDD-H82W0) on SA Biosensor, can bind UCHT1 with an affinity constant of 21.8 pM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).



Loaded Biotinylated Human CD3E&CD3D Heterodimer Protein, Fc,His Tag&Fc,Flag Tag, primary amine labeling (Cat. No. CDD-H82W0) on SA Biosensor, can bind Bispecific BCMA×CD3 T cell-engaging Antibody (Cat. No. CDA-H52Hb) with an affinity constant of 2.05 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.

Clinical and Translational Updates

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