Biotinylated Human 4-1BB / TNFRSF9 (87-186) Protein, His,Avitag™ (MALS verified)

Catalog # 41B-H82E4

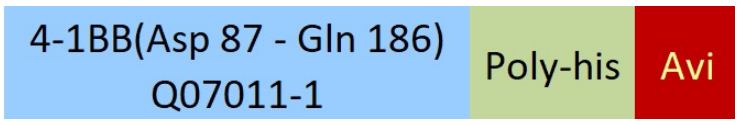
Synonym

TNFRSF9,4-1BB,CD137,CDw137,ILA

Source

Biotinylated Human 4-1BB (87-186), His,Avitag(41B-H82E4) is expressed from human 293 cells (HEK293). It contains AA Asp 87 - Gln 186 (Accession # Q07011-1).
Predicted N-terminus: Asp 87

Molecular Characterization



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

The protein has a calculated MW of 14.1 kDa. The protein migrates as 20-32 kDa 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.

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

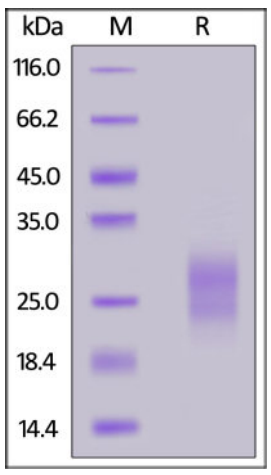
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

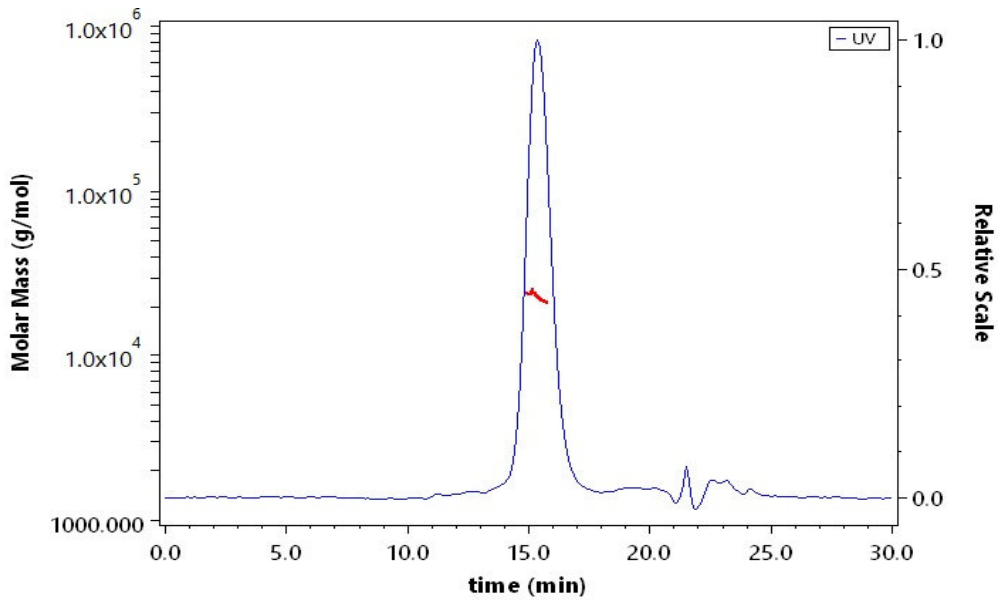
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



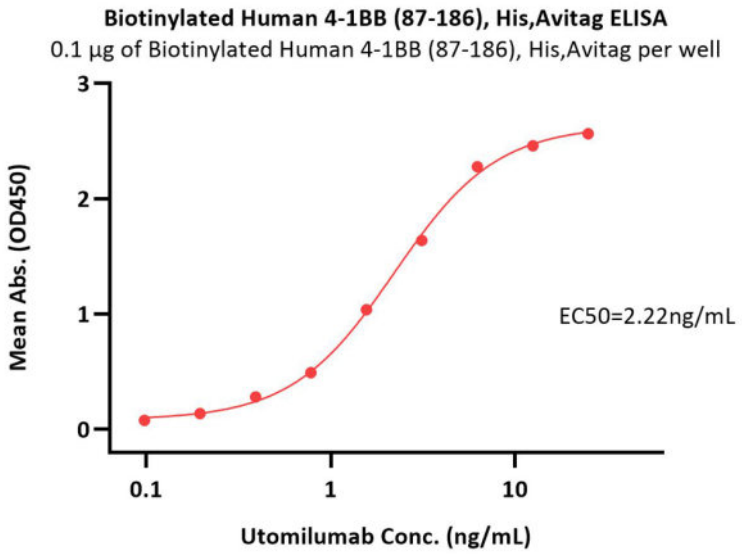
Biotinylated Human 4-1BB (87-186), His,Avitag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90%.

SEC-MALS



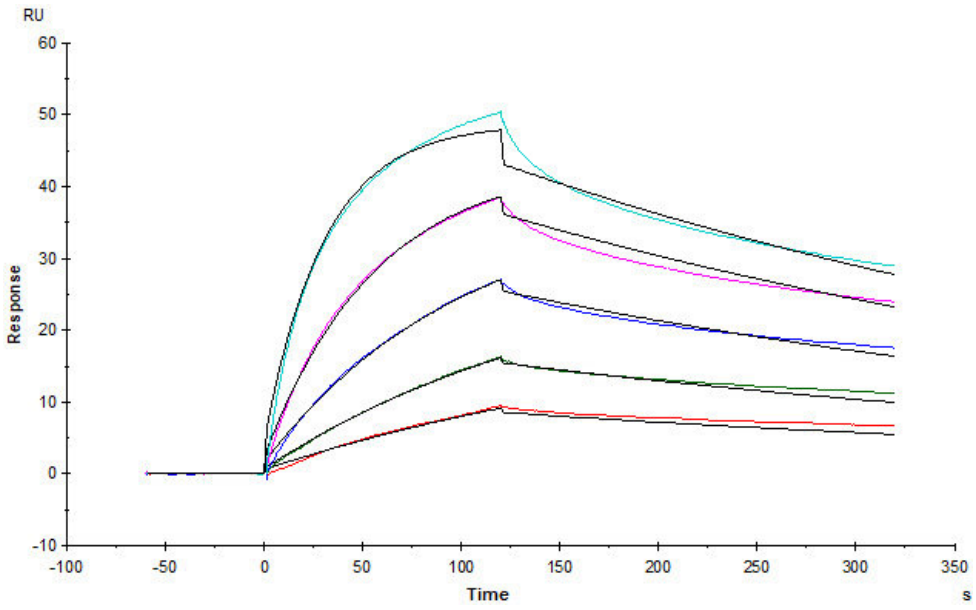
The purity of Biotinylated Human 4-1BB (87-186), His,Avitag (Cat. No. 41B-H82E4) is more than 95% and the molecular weight of this protein is around 19-28 kDa verified by SEC-MALS.
Report

Bioactivity-ELISA



Immobilized Biotinylated Human 4-1BB (87-186), His,Avitag (Cat. No. 41B-H82E4) at 1 μg/mL (100 μL/well) on streptavidin (Cat. No. STN-N5116) precoated (0.5 μg/well) plate can bind Utomilumab with a linear range of 0.1-3 ng/mL (QC tested).

Bioactivity-SPR



Biotinylated Human 4-1BB (87-186), His,Avitag (Cat. No. 41B-H82E4) captured on Biotin CAP - Series S sensor Chip can bind Utomilumab with an affinity constant of 0.452 nM as determined in a SPR assay (Biacore T200) (Routinely tested).

Background

4-1BB is also known as CD137, tumor necrosis factor receptor superfamily member 9 (TNFRSF9), induced by lymphocyte activation (ILA), is a co-stimulatory molecule of the tumor necrosis factor (TNF) receptor superfamily. CD137 can be expressed by activated T cells, but to a larger extent on CD8 than on CD4 T cells. In addition, CD137 expression is found on dendritic cells, follicular dendritic cells, natural killer cells, granulocytes and cells of blood vessel walls at sites of inflammation. The best characterized activity of CD137 is its costimulatory activity for activated T cells. Crosslinking of CD137 enhances T cell proliferation, IL-2 secretion survival and cytolytic activity. Further, it can enhance immune activity to eliminate tumors in mice. CD137 can enhance activation-induced T cell apoptosis when triggered by engagement of the TCR/CD3 complex. In addition, 4-1BB/4-1BBL co-stimulatory pathway has been shown to augment secondary CTL responses to several viruses, and meanwhile augment anti-tumor immunity. 4-1BB thus is a promising candidate for immunotherapy of human cancer. CD137 has been shown to interact with TRAF2.