Synonym

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

Source

Biotinylated Human 4-1BB, Avitag,His Tag (41B-H82E3) is expressed from human 293 cells (HEK293). It contains AA Leu 24 - Gln 186 (Accession # NP_001552.2).
Predicted N-terminus: Leu 24

Molecular Characterization

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

The protein has a calculated MW of 19.9 kDa. The protein migrates as 28-35 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Biotinylation

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

Biotin:Protein Ratio

The biotin to protein ratio is ***0.5-1*** as determined by the HABA assay.

Endotoxin

Less than 1.0 EU per µg by the LAL method.

Purity

>90% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4. Normally trehalose is added as protectant before lyophilization.

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.

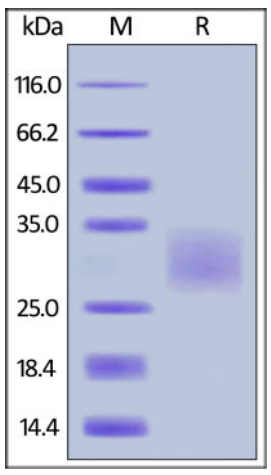
Storage

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

Please avoid repeated freeze-thaw cycles.

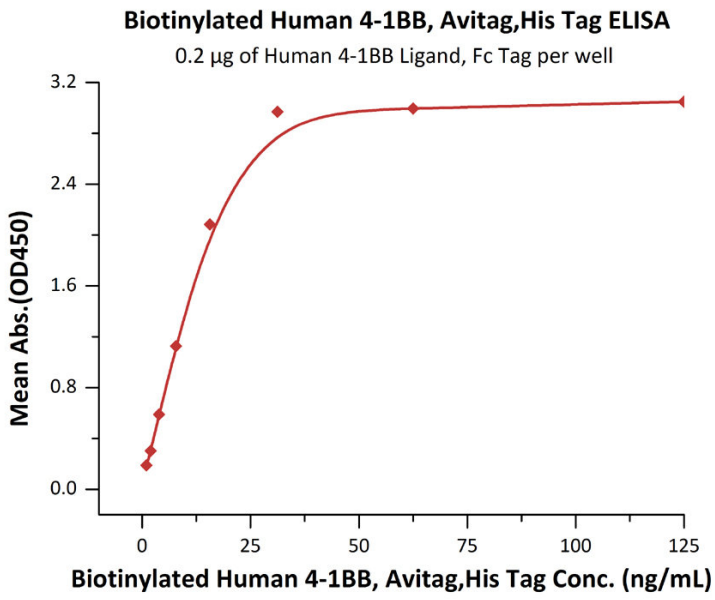
This product is stable after storage at:
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

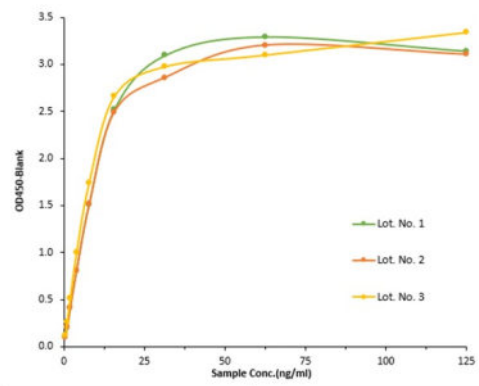
SDS-PAGE



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

Bioactivity-ELISA

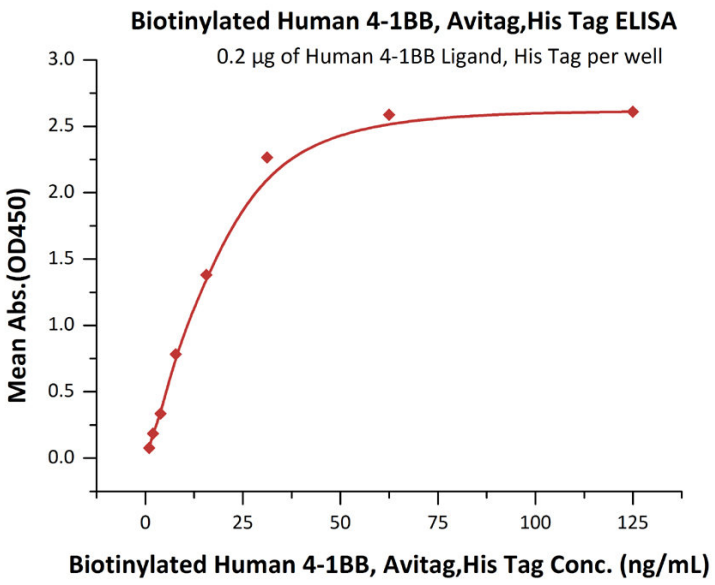




Lot. No.	EC50(µg/mL)
Lot. No. 1	0.0086
Lot. No. 2	0.0082
Lot. No. 3	0.0070

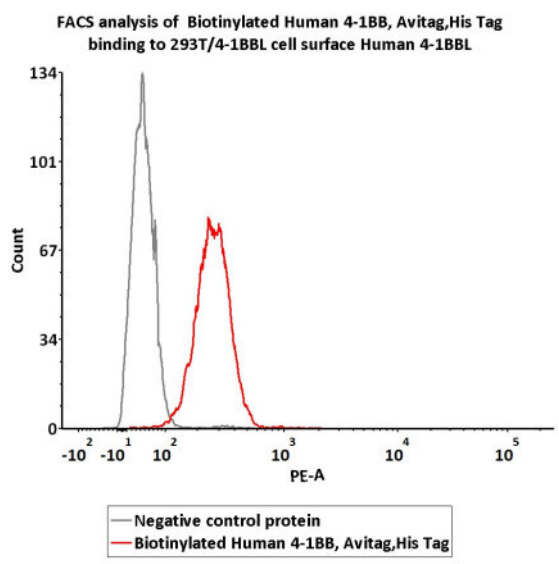
Report

Immobilized Human 4-1BB Ligand, Fc Tag (Cat. No. 41L-H5257) at 2 µg/mL (100 µL/well) can bind Biotinylated Human 4-1BB, Avitag,His Tag (Cat. No. 41B-H82E3) with a linear range of 0.5-16 ng/mL (QC tested).



Immobilized Human 4-1BB Ligand, His Tag (Cat. No. 41L-H5249) at 2 µg/mL (100 µL/well) can bind Biotinylated Human 4-1BB, Avitag,His Tag (Cat. No. 41B-H82E3) with a linear range of 1-31 ng/mL (Routinely tested).

Bioactivity-FACS



Flow Cytometry assay shows that Biotinylated Human 4-1BB, Avitag,His Tag (Cat. No. 41B-H82E3) can bind to 293T cells overexpressing Human 4-1BBL. The concentration of 4-1BB used is 0.1 µg/mL (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.

References

(1) Cooper D, et al., 2002, Eur. J. Immunol. 32 (2): 521–9.

(2) Jang, I K., et al., 1998, Biochem. Biophys. Res. Commun. (UNITED STATES) 242 (3): 613–20.

(3) Arch, R H., Thompson C B., 1998, Mol. Cell. Biol. (UNITED STATES) 18 (1): 558–65.

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