

Synonym

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

Source

Biotinylated Human 4-1BB, Fc,Avitag (41B-H82F7) 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

4-1BB(Leu 24 - Gln 186) NP_001552.2	Fc(Pro 100 - Lys 330) P01857	Avi
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This protein carries a human IgG1 Fc tag at the C-terminus, followed by an Avi tag (Avitag™).

The protein has a calculated MW of 45.7 kDa. The protein migrates as 55-60 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

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.

Formulation

Lyophilized from 0.22 µm filtered solution in Tris with Glycine, Arginine and NaCl, pH7.5. 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.

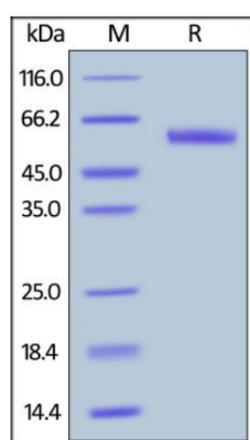
Storage

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

Please avoid repeated freeze-thaw cycles.

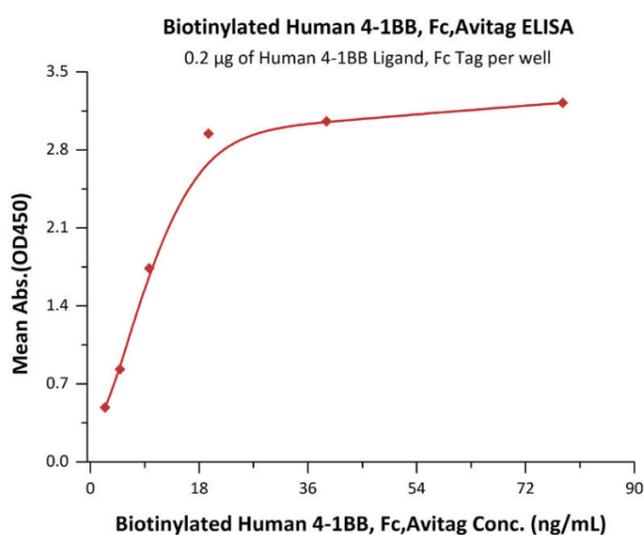
This product is stable after storage at:

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

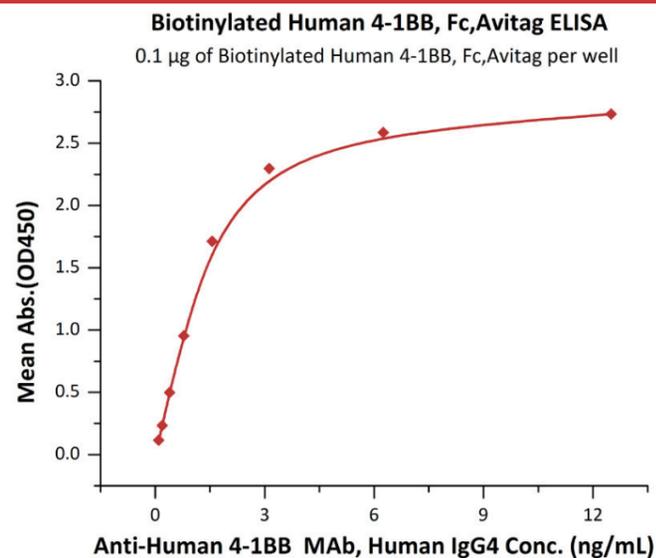
SDS-PAGE

Biotinylated Human 4-1BB, Fc,Avitag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

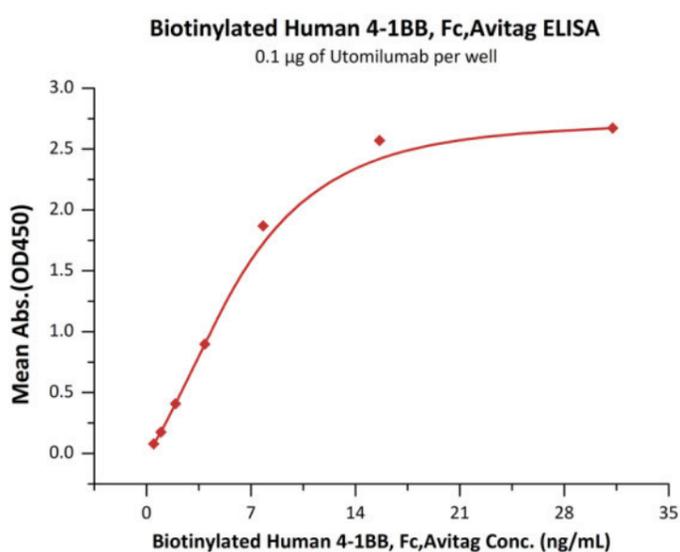
Bioactivity-ELISA



Immobilized Human 4-1BB Ligand, Fc Tag (Cat. No. [41L-H5257](#)) at 2 µg/mL (100 µL/well) can bind Biotinylated Human 4-1BB, Fc,Avitag (Cat. No. [41B-H82F7](#)) with a linear range of 2-19 ng/mL (QC tested).

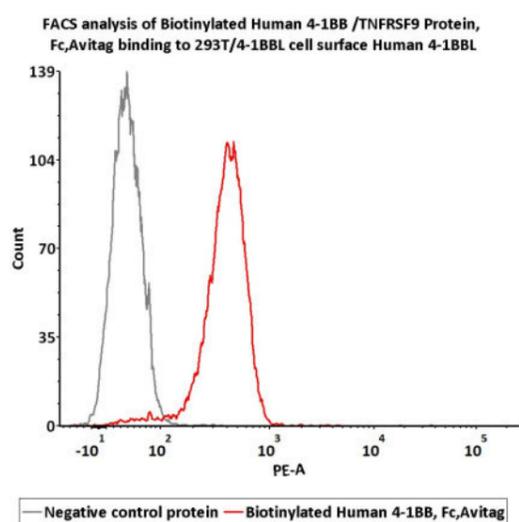


Immobilized Biotinylated Human 4-1BB, Fc,Avitag (Cat. No. [41B-H82F7](#)) at 1 µg/mL (100 µL/well) on Recombinant Streptavidin (Cat. No. [STN-N5116](#)) precoated (0.5 µg/well) plate, can bind Anti-Human 4-1BB mAb, Human IgG4 with a linear range of 0.1-2 ng/mL (Routinely tested).



Immobilized Utomilumab at 1 µg/mL (100 µL/well) can bind Biotinylated Human 4-1BB, Fc,Avitag (Cat. No. [41B-H82F7](#)) with a linear range of 0.5-8 ng/mL (Routinely tested).

Bioactivity-FACS



Flow Cytometry assay shows that Biotinylated Human 4-1BB, Fc,Avitag (Cat. No. [41B-H82F7](#)) can bind to 293T cells overexpressing Human 4-1BBL. The concentration of 4-1BB used is 0.3 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.

Clinical and Translational Updates

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