

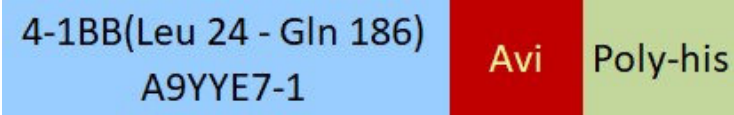
Synonym

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

Source

Biotinylated Cynomolgus / Rhesus macaque 4-1BB, Avitag,His Tag(41B-C82E9) is expressed from human 293 cells (HEK293). It contains AA Leu 24 - Gln 186 (Accession # [A9YYE7-1](#)).  
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 21.8 kDa. The protein migrates as 30-40 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

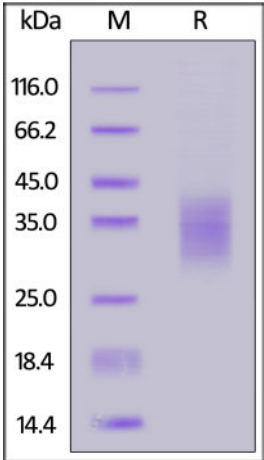
Please see Certificate of Analysis for specific instructions.  
*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

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.

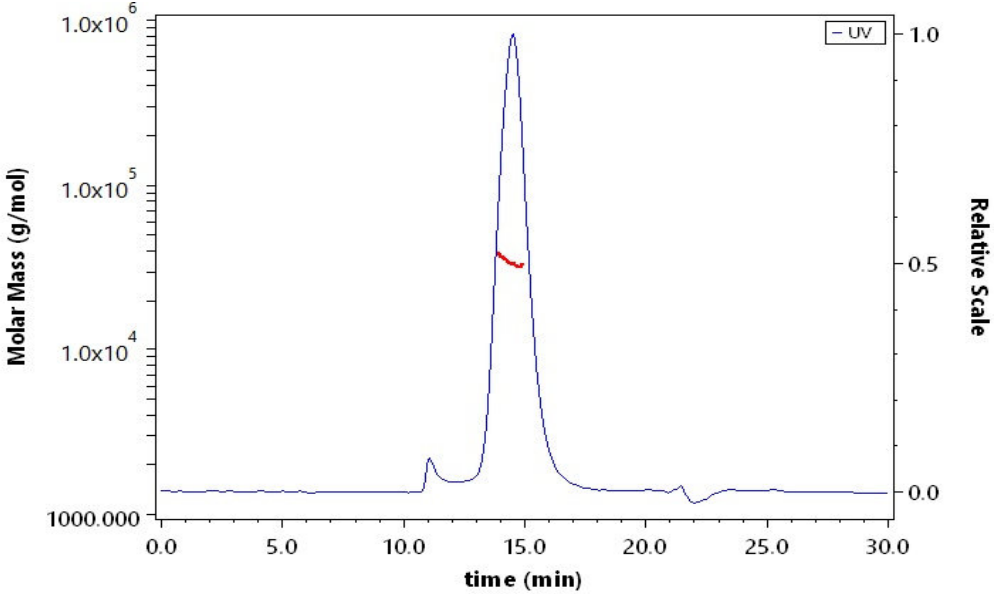
SDS-PAGE



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

Bioactivity-ELISA

SEC-MALS



The purity of Biotinylated Cynomolgus / Rhesus macaque 4-1BB, Avitag,His Tag (Cat. No. 41B-C82E9) is more than 95% and the molecular weight of this protein is around 27-41 kDa verified by SEC-MALS.  
[Report](#)

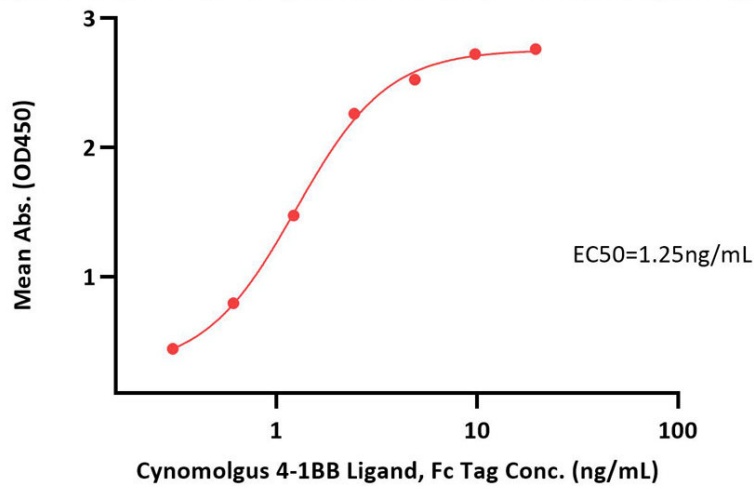


**Biotinylated Cynomolgus / Rhesus macaque 4-1BB / TNFRSF9 Protein, Avitag™,His Tag (MALS verified)**

Catalog # 41B-C82E9

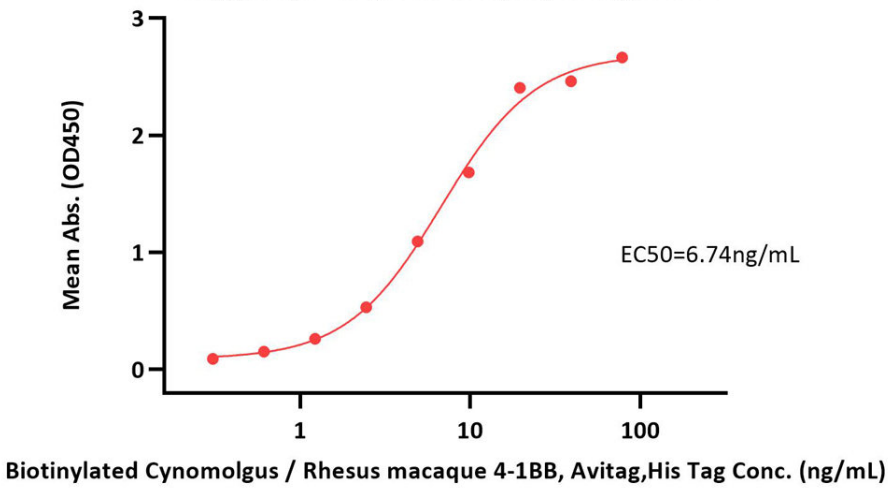


**Biotinylated Cynomolgus / Rhesus macaque 4-1BB, Avitag,His Tag ELISA**  
0.1 µg of Biotinylated Cynomolgus / Rhesus macaque 4-1BB, Avitag,His Tag per well



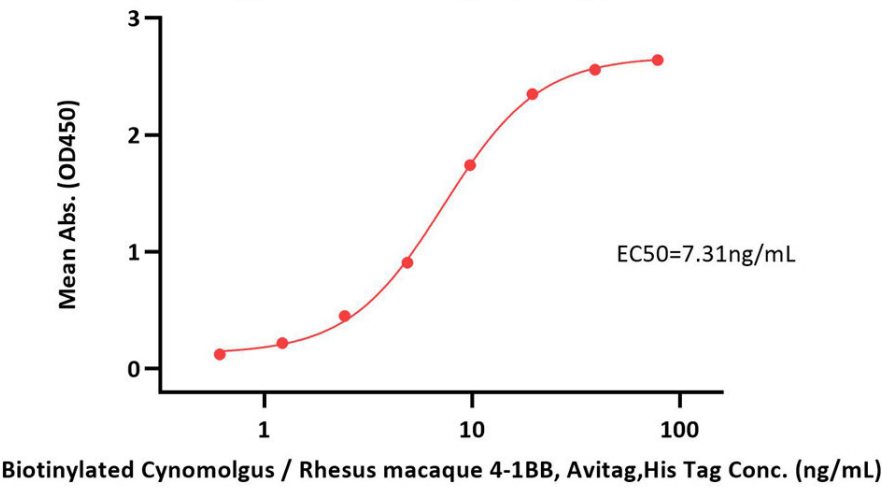
Immobilized Biotinylated Cynomolgus / Rhesus macaque 4-1BB, Avitag,His Tag (Cat. No. 41B-C82E9) at 1 µg/mL (100 µL/well) on streptavidin (Cat. No. STN-N5116) precoated (0.5 µg/well) plate can bind Cynomolgus 4-1BB Ligand, Fc Tag (Cat. No. 41L-C5254) with a linear range of 0.3-2 ng/mL (QC tested).

**Biotinylated Cynomolgus / Rhesus macaque 4-1BB, Avitag,His Tag ELISA**  
0.5 µg of Cynomolgus 4-1BB Ligand, Fc Tag per well



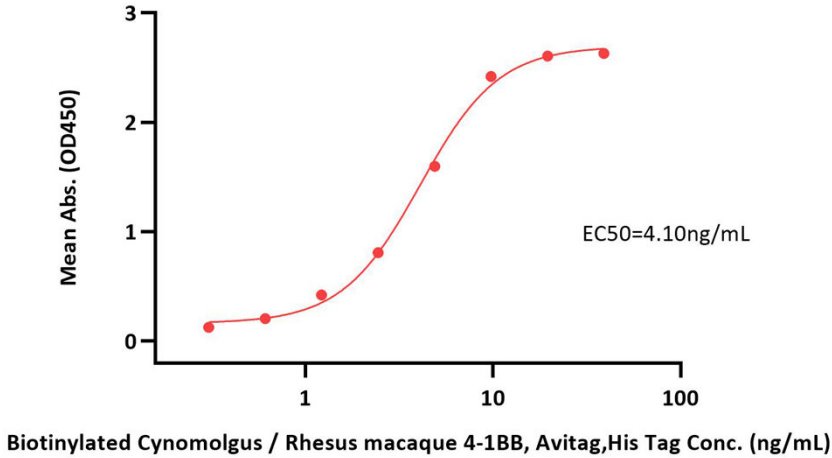
Immobilized Cynomolgus 4-1BB Ligand, Fc Tag (Cat. No. 41L-C5254) at 5 µg/mL (100 µL/well) can bind Biotinylated Cynomolgus / Rhesus macaque 4-1BB, Avitag,His Tag (Cat. No. 41B-C82E9) with a linear range of 0.3-20 ng/mL (Routinely tested).

**Biotinylated Cynomolgus / Rhesus macaque 4-1BB, Avitag,His Tag ELISA**  
0.5 µg of Human 4-1BB Ligand, Fc Tag per well



Immobilized Human 4-1BB Ligand, Fc Tag at 5 µg/mL (100 µL/well) can bind Biotinylated Cynomolgus / Rhesus macaque 4-1BB, Avitag,His Tag (Cat. No. 41B-C82E9) with a linear range of 0.6-20 ng/mL (Routinely tested).

**Biotinylated Cynomolgus / Rhesus macaque 4-1BB, Avitag,His Tag ELISA**  
0.1 µg of Utomilumab per well



Immobilized Utomilumab at 1 µg/mL (100 µL/well) can bind Biotinylated Cynomolgus / Rhesus macaque 4-1BB, Avitag,His Tag (Cat. No. 41B-C82E9) with a linear range of 0.3-10 ng/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.

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