



### Synonym

4-1BB Ligand, TNFSF9, CD137L

### Source

Human 4-1BB Ligand (71-254) Protein, His,Flag Tag(41L-H52D4) is expressed from human 293 cells (HEK293). It contains AA Arg 71 - Glu 254 (Accession # [P41273-1](#)).

Predicted N-terminus: His

### Molecular Characterization

This protein carries a polyhistidine tag at the N-terminus, followed by a flag tag.

The protein has a calculated MW of 62.8 kDa. The protein migrates as 55-60 kDa under non-reducing (NR) condition (SDS-PAGE).

### 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 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

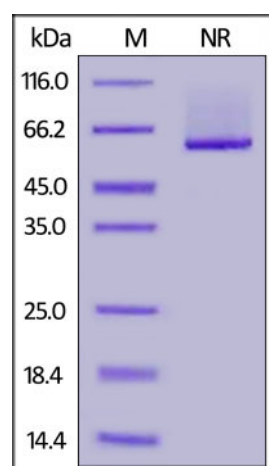
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*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.

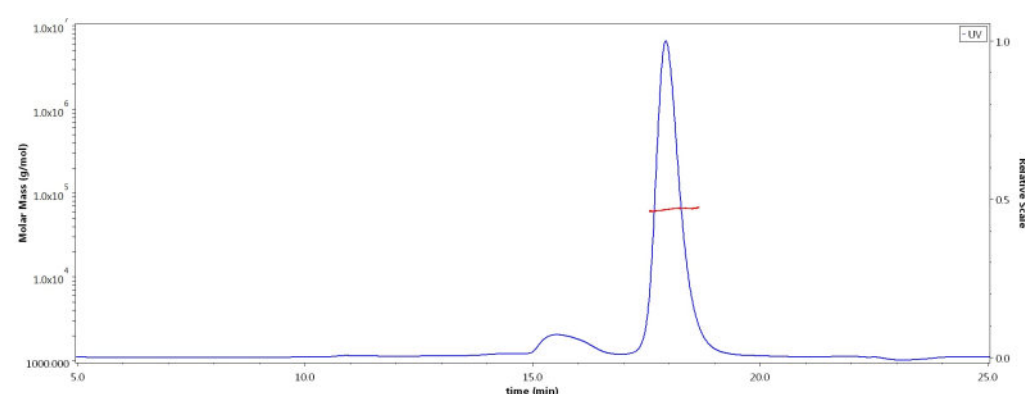
### SDS-PAGE



Human 4-1BB Ligand (71-254) Protein, His,Flag Tag on SDS-PAGE under non-reducing (NR) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

### Bioactivity-ELISA

### SEC-MALS

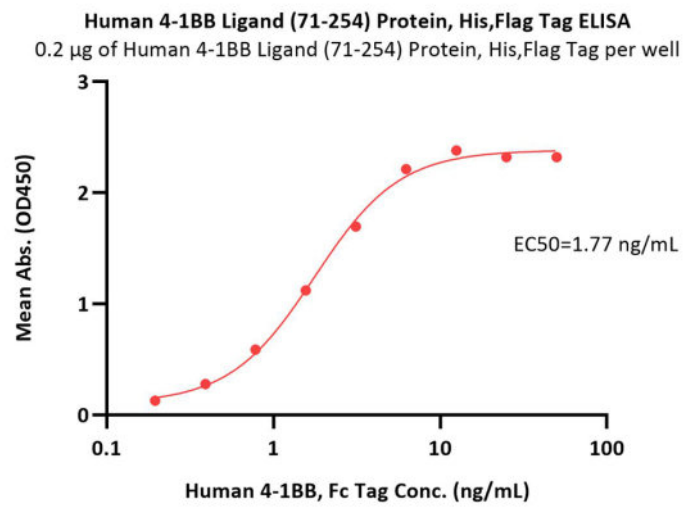


The purity of Human 4-1BB Ligand (71-254) Protein, His,Flag Tag (Cat. No. 41L-H52D4) is more than 85% and the molecular weight of this protein is around 55-70 kDa verified by SEC-MALS.

[Report](#)

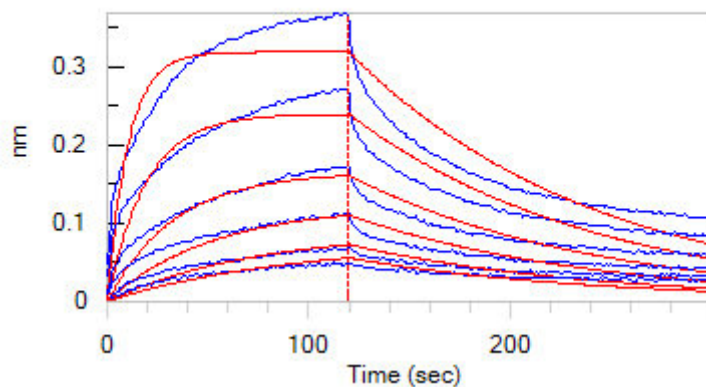
Discounts, Gifts,  
and more!





Immobilized Human 4-1BB Ligand (71-254) Protein, His,Flag Tag (Cat. No. 41L-H52D4) at 2 µg/mL (100 µL/well) can bind Human 4-1BB, Fc Tag (Cat. No. 41B-H5258) with a linear range of 0.2-3 ng/mL (QC tested).

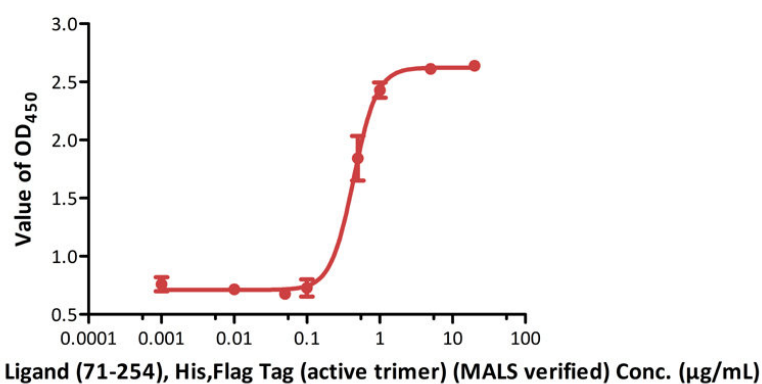
**Bioactivity-BLI**



Loaded Mouse 4-1BB, Fc Tag (Cat. No. 41B-M5258) on Protein A Biosensor, can bind Human 4-1BB Ligand (71-254) Protein, His,Flag Tag (Cat. No. 41L-H52D4) with an affinity constant of 18.6 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

**Bioactivity-Bioactivity CELL BASE**

Human 4-1BB Ligand (71-254), His,Flag Tag (active trimer) (MALS verified) induce IL-8 secretion in HT1080 human CD137 cell line



Human 4-1BB Ligand (71-254) Protein, His,Flag Tag (Cat. No. 41L-H52D4) induce IL-8 secretion in HT1080 human CD137 cell line. The EC50 for this effect is 0.20-0.44 µg/mL (Routinely tested).

Discounts, Gifts, and more!





## Background

Tumor necrosis factor ligand superfamily member 9 (4-1BBL) is also known as 4-1BB ligand, CD137L or TNFSF9, which is a cytokine that binds to TNFRSF9. 4-1BBL is the high affinity ligand of 4-1BB. 4-1BBL induces the proliferation of activated peripheral blood T-cells. Also, 4-1BBL may have a role in activation-induced cell death (AICD). Furthermore, 4-1BBL may play a role in cognate interactions between T-cells and B-cells/macrophages. As for diseases, 4-1BBL is involved in cancers, infectious diseases and autoimmune diseases.

## Clinical and Translational Updates

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and more!

