

# Rhesus CD137 / 4-1BB Protein (Fc Tag)

Catalog Number: 90847-K02H



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

TNFRSF9

### Protein Construction:

A DNA sequence encoding the rhesus TNFRSF9 (NP\_001253057.1) (Met1-Gln186) was expressed with the Fc region of human IgG1 at the C-terminus.

**Source:** Rhesus

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** > 95 % as determined by SDS-PAGE.

### Bio Activity:

**1. Measured by its binding ability in a functional ELISA. 2. Immobilized rhesus TNFRSF9-Fc (Cat: 90847-K02H) at 10 µg/mL (100 µL/well) can bind biotinylated human TNFSF9 (Cat: 15693-H01H), the EC<sub>50</sub> of biotinylated human TNFSF9 is 20-100 ng/mL.**

### Endotoxin:

< 1.0 EU per µg protein as determined by the LAL method.

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Leu 24

### Molecular Mass:

The recombinant rhesus TNFRSF9 consists of 401 amino acids and predicts a molecular mass of 44 kDa.

### Formulation:

Lyophilized from sterile PBS, pH 7.4.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

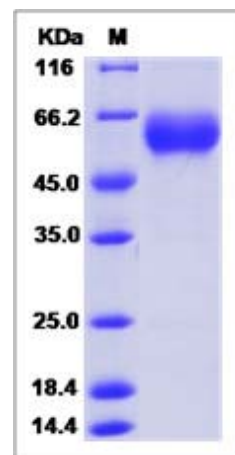
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

CD137 (also known as 4-1BB) is a surface co-stimulatory glycoprotein originally described as present on activated T lymphocytes, which belongs to the tumor necrosis factor (TNF) receptor superfamily. It is expressed mainly on activated CD4+ and CD8+ T cells, and binds to a high-affinity ligand (4-1BBL) expressed on several antigen-presenting cells such as macrophages and activated B cells. Upon ligand binding, 4-1BB is associated with the tumor necrosis factor receptor-associated factors (TRAFs), the adaptor protein which mediates downstream signaling events including the activation of NF-kappaB and cytokine production. 4-1BB signaling either by binding to 4-1BBL or by antibody ligation delivers signals for T-cell activation and growth, as well as monocyte proliferation and B-cell survival, and plays an important role in the amplification of T cell-mediated immune responses. In addition, CD137 and CD137L are expressed in different human primary tumor tissues, suggesting that they may influence the progression of tumors. Crosslinking of CD137 on activated T cells has shown promise in enhancing anti-tumor immune responses in murine models, and agonistic anti-CD137 antibodies are currently being tested in phase I clinical trials.

## References

1. Sica G, *et al.* (1999) Biochemical and immunological characteristics of 4-1BB (CD137) receptor and ligand and potential applications in cancer therapy. *Arch Immunol Ther Exp (Warsz)*. 47(5): 275-9.
2. Nam KO, *et al.* (2005) The therapeutic potential of 4-1BB (CD137) in cancer. *Curr Cancer Drug Targets*. 5(5): 357-63.
3. Wang Q, *et al.* (2008) Analysis of CD137 and CD137L expression in human primary tumor tissues. *Croat Med J*. 49(2): 192-200.

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