

4-1BB/CD137/TNFRSF9 Protein, Mouse, Recombinant (aa 1-211, His&AVI), Biotinylated

General Information

Synonyms:	CDw137;AI325004;Cd137;Ly63;tumor necrosis factor receptor superfamily, member 9; AA408498;ILA;4-1BB;A930040111Rik
Protein Construction:	A DNA sequence encoding the Mouse TNFRSF9 (NP_001070976.1)(Met1-Leu211) was expressed with a C-terminal polyhistidine tag followed by an AVI tag. The expressed protein was biotinylated in vivo by the Biotin-Protein ligase (BirA enzyme) which is co-expressed. Predicted N terminal: Val 24
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	NP_001070976.1
Molecular Weight:	23.32 kDa (predicted); 40.5 kDa (reducing conditions)

QC Testing

Biological Activity:	Immobilized Recombinant Mouse 4-1BBL / CD137L / TNFSF9 Protein (His Tag) at 2 µg/mL (100 µL/well) can bind Recombinant Mouse 4-1BB/CD137 Protein (His & AVI Tag), Biotinylated, the EC50 is 1.2-3.6 ng/mL(QC tested).
Purity:	≥ 95 % as determined by SDS-PAGE. ≥ 95 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:	A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.
Stability & Storage:	It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots. <small>Actual storage temperature shall be subject to the COA.</small>
Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

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. Soluble forms of CD137 (sCD137) are generated by differential splicing. sCD137 can bind to CD137 ligand to antagonize the costimulatory activities of the membrane-bound CD137 and reduce T cell proliferation and IL-2 secretion.

Cancer Immunotherapy
Co-stimulatory Immune Checkpoint
Targets
Immune Checkpoint
Immune Checkpoint Detection: Antibodies
Immune Checkpoint Detection: ELISA
Antibodies
Immune Checkpoint Proteins
Immune Checkpoint Targets
Immunotherapy
Targeted Therapy

Reference

- 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.
- Nam KO, et al. (2005) The therapeutic potential of 4-1BB (CD137) in cancer. *Curr Cancer Drug Targets*. 5(5): 357-63.
- Wang Q, et al. (2008) Analysis of CD137 and CD137L expression in human primary tumor tissues. *Croat Med J*. 49(2): 192-200.
- Melero I, et al. (2008) Multi-layered action mechanisms of CD137 (4-1BB)-targeted immunotherapies. *Trends Pharmacol Sci*. 29(8): 383-90.
- Thum E, et al. (2009) CD137, implications in immunity and potential for therapy. *Front Biosci*. 14: 4173-88.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel: 781-999-4286 E_mail: info@targetmol.com Address: 34 Washington Street, Wellesley Hills, MA 02481