

## 4-1BB/CD137/TNFRSF9 Protein, Human, Recombinant

### General Information

Synonyms:	CD137 antigen;TNFRSF9;4-1BB;T-cell antigen ILA
Protein Construction:	Glu18-Ser184
Species:	Human
Expression Host:	E. coli
Accession:	Q07011
Molecular Weight:	17.7 kDa (Predicted)

### QC Testing

Biological Activity:	Fully biologically active when compared to standard. The biological activity is determined by its inhibitory effect of IL-8 production using human peripheral blood mononuclear cells. About 90 % of inhibition was seen using a concentration of 1.0 µg for both 4-1BB Ligand and 4-1BB Receptor.
Purity:	> 97% as determined by SDS-PAGE; > 97% as determined by HPLC
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a 0.2 µm filtered solution in 10 mM PB, pH 8.0, 150 mM NaCl.

### Preparation and Storage

#### Reconstitution:

It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/ml.

#### Stability & Storage:

Upon receiving, this product remains stable for up to 6 months at -70°C or -20°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. Avoid repeated freeze-thaw cycles.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

4-1BB(CD137) is a member of the tumor necrosis factor (TNF) receptor family. Mature human 4-1BB consists of a 163 amino acid extracellular domain (ECD) with four TNFR cysteine-rich repeats, a 27 aa transmembrane segment, and a 42 aa cytoplasmic domain; 4-1BB (CD137) is expressed as a disulfide-linked homodimer on various populations of activated T cell including CD4 + , CD8 + , memory CD8 + , NKT, and regulatory T cells as well as on myeloid and mast cell progenitors, dendritic cells, mast cells, and bacterially infected osteoblasts. It binds with high affinity to the transmembrane 4-1BB Ligand/TNFSF9 which is expressed on antigen presenting cells and

myeloid progenitor cells. This interaction co-stimulates the proliferation, activation, and/or survival of the 4-1BB expressing cell. It can also enhance the activation-induced cell death of repetitively stimulated T cells.

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