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# 4 1BBL Human, His

**Description:**TNFSF9 Human Recombinant fused to 37 amino acids His tag at N-terminus produced in E.Coli is a single, non-glycosylated polypeptide chain containing 222 amino acids (71-254 a.a.) and having a molecular mass of 23.8 kDa. The TNFSF9 37 aa His tag fusion protein is purified by proprietary chromatographic techniques.

Synonyms:CD137L, CD137-L, 4-1BBL, 4-1BB Ligand, TNFSF9, Tumor Necrosis Factor (ligand) Superfamily Member 9.

Source: Escherichia Coli.

Physical Appearance: Sterile Filtered colorless solution.

Amino Acid Sequence:MRGSHHHHHH GMASMTGGQQ MGRDLYDDDD KDRWGSHMRE GPELSPDDPA GLLDLRQGMF AQLVAQNVLL IDGPLSWYSD PGLAGVSLTGGLSYKEDTKE LVVAKAGVYY VFFQLELRRV VAGEGSGSVS LALHLQPLRS AAGAAALALT VDLPPASSEA RNSAFGFQGR LLHLSAGQRL GVHLHTEARA RHAWQLTQGA TVLGLFRVTP EIPAGLPSPR SE.

Purity:Greater than 95.0% as determined by SDS-PAGE

## Formulation:

Recombinant 4-1BBL solution (1mg/ml) contains 20mM Tris-HCl buffer pH-8, 100mM NaCl and 20% glycerol.

### Stability:

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

### Usage:

NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

### Introduction:

4-1BBL is a transmembrane cytokine that is part of the tumor necrosis factor (TNF) ligand family. 4-1BBL is a bidirectional signal transducer that performs as a ligand for TNFRSF9, which is a costimulatory receptor molecule in T lymphocytes. TNFSF9 and its TNFRSF9 take part in the antigen presentation development and in the generation of cytotoxic T cells. 4-1BBR is absent from resting T lymphocytes but rapidly expressed upon antigenic stimulation. TNFSF9 reactivates anergic T lymphocytes as well as promoting T lymphocyte proliferation. 4-1BB Ligand is needed for the optimal CD8 responses in CD8 T cells. 4-1BBL is expressed in carcinoma cell lines, and is thought to be involved in T cell-tumor cell interaction. 4-1BBL is expressed by activated B cells, macrophages, dendritic cells, activated T cells, neurons and astrocytes. The interaction of 4-1BB with TNFRSF9 strongly regulates immunity and has been proposed to preferentially control T cell responses based on studies in various murin

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