

## 4 1BBL Human

**Description:** 4 1BBL Human Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 184 amino acids and having a molecular mass of 19.5kDa. The 4 1BBL 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 White lyophilized (freeze-dried) powder.

**Amino Acid Sequence:** REGPELSPDD PAGLLDLRQG MFAQLVAQNV LLIDGPLSWY  
SDPGLAGVSL TGGLSYKEDT KELVAKAGV YYVFFQLELR RVVAGEGSGS VSLALHLQPL  
RSAAGAAALA LTVDLPPASS EARNSAFGFQ GRLLHLSAGQ RLGVLHTEA RARHAWQLTQ  
GATVLGLFRV TPEIPAGLPS PRSE

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

**Formulation:**

Lyophilized from a 0.2m filtered concentrated solution in PBS, pH 7.4.

**Stability:**

Lyophilized 4 1BBL although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution 4 1BBL should be stored at 4°C between 2-7 days and for future use below -18°C. Please prevent 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.

**Solubility:**

It is recommended to reconstitute the lyophilized 4 1BBL in sterile 18M-cm H<sub>2</sub>O not less than 100

**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. 4-1BBL 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.

**Biological Activity:**

Fully biologically active when compared to standard. Determined by the dose-dependent

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stimulation of IL-8 production by human PBMC. The ED50 for this effect is 5-10ng/ml  
corresponding to a Specific Activity of 100,000-200,000IU/mg.

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