

## Product datasheet for **TP728142**

### Recombinant 4-1BBL (4-1BB ligand), Human

#### Product data:

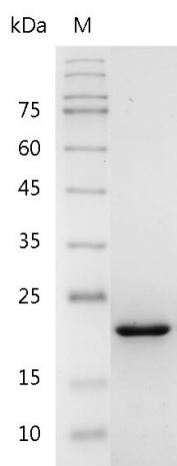
<b>Product Type:</b>	Recombinant Proteins
<b>Description:</b>	Recombinant 4-1BBL (4-1BB ligand), Human
<b>Species:</b>	Human
<b>Expression Host:</b>	E. coli
<b>Expression cDNA Clone or AA Sequence:</b>	MREGPELSPDDPAGLLDLRQGMFAQLVAQNVLLIDGPLSWYSDPGLAGVSLTGGLSYKEDTKELVWAKAG VYYVFFQLELRRVWAGEGSGSVSLALHLQPLRSAAGAAALALTVDLPPASSEARNSAFGFQGRLLHLSAGQ RLGVHLHTEARARHAWQLTQGATVLGLFRVTPEIPAGLPSRSE with polyhistidine tag at the C-terminus.
<b>Tag:</b>	His Tag (C-term)
<b>Predicted MW:</b>	The protein has a calculated MW of 20.4 kDa. The protein migrates as 20 kDa under reducing condition (SDS-PAGE analysis).
<b>Purity:</b>	>95% as determined by SDS-PAGE.
<b>Buffer:</b>	The protein was lyophilized from a 0.2 µm filtered solution containing 1X PBS, pH 7.4.
<b>Bioactivity:</b>	Measure by its ability to induce IL-8 secretion in human PBMCs. The ED <sub>50</sub> for this effect is 1-5 ng/mL.
<b>Endotoxin:</b>	<0.1 EU per 1 µg of the protein by the LAL method.
<b>Reconstitution Method:</b>	Centrifuge at 3000 rpm for 5 mins before opening. It is recommended to reconstitute the lyophilized protein in sterile H <sub>2</sub> O to a concentration not less than 100 µg/mL and incubate the stock solution at room temperature for at least 20 mins to ensure sufficient re-dissolved. Do Not Vortex! Vigorous shaking may impair the biological activity of the protein.
<b>Applications:</b>	Cell culture
<b>Storage:</b>	Lyophilized protein should be stored at -20°C for 1 year. Upon reconstitution, store at 2°C to 8°C for up to 1 week. Further dilute in a buffer containing a carrier protein or stabilizer (e.g. 0.1% BSA, 10%FBS, 5%HSA or 5% trehalose solution), protein aliquots should be stored at -20°C or -80°C for 3-6 months. Avoid repeated freeze/thaw cycles.
<b>UniProt ID:</b>	<a href="#">P41273</a>
<b>Synonyms:</b>	CD137L, TNLG5A, TNFSF9, Tumor necrosis factor ligand superfamily member 9



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**Summary:**

4-1BB ligand (4-1BBL) is a type II transmembrane protein that is part of the tumor necrosis factor (TNF) ligand family. As an inducible co-stimulatory molecule, it presents on several antigen presenting cell (APC) types, including B cells, macrophages and DCs. The interactions between 4-1BB and 4-1BBL trigger pleiotropic effects on the immune response including antigen presenting process, proliferation of CD4 and CD8 positive T-cells, as well as cytokine secretion from T-cells through NF $\kappa$ B, c-Jun, and p38 downstream signal pathways activation. Therefore, 4-1BB and 4-1BBL are recently used for the immunotherapy of cancer.

**Product images:**

SDS- PAGE analysis of recombinant human 4-1BBL