

## Recombinant Human 4-1BB Ligand/TNFSF9

### Information

<b>Gene ID</b>	8744
<b>Accession #</b>	P41273
<b>Alternate Names</b>	TNFSF9, CD137L
<b>Source</b>	Escherichia coli.
<b>M.Wt</b>	Approximately 19.4 kDa, a single non-glycosylated polypeptide chain containing 184 amino acids.
<b>AA Sequence</b>	REGPELSPDD PAGLLDLRQG MFAQLVAQNV LLIDGPLSWY SDPGLAGVSL TGGLSYKEDT KELVVAKAGV YYVFFQLELR RVVAGEGSGS VSLALHLQPL RSAAGAAALA LTVDLPPASS EARNSAFGFQ GRLLHLSAGQ RLGVLHTEA RARHAWQLTQ GATVLGLFRV TPEIPAGLPS PRSE
<b>Appearance</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Stability &amp; Storage</b>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles - 12 months from date of receipt, -20 to -70 °C as supplied - 1 month, 2 to 8 °C under sterile conditions after reconstitution - 3 months, -20 to -70 °C under sterile conditions after reconstitution
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.
<b>Reconstitution</b>	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.
<b>Biological Activity</b>	Fully biologically active when compared to standard. The ED as determined by stimulation of IL-8 production using human PBMC is less than 10 ng/ml, corresponding to a specific activity of > 1.0 × 10 IU/mg.
<b>Shipping Condition</b>	Gel pack.
<b>Handling</b>	Centrifuge the vial prior to opening.
<b>Usage</b>	For Research Use Only! Not to be used in humans.

### Components and Storage

Components	5µg	100µg	500µg
Recombinant Human 4-1BB Ligand/TNFSF9	5µg	100µg	500µg

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- 12 months from date of receipt, -20 to -70 °C as supplied
- 1 month, 2 to 8 °C under sterile conditions after reconstitution
- 3 months, -20 to -70 °C under sterile conditions after reconstitution

## Quality Control

Purity	> 95 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than 1 EU/μg of rHu4-1BBL as determined by LAL method.

## Description

4-1BBL is a member of the tumor necrosis factor (TNF) receptor family. This receptor contributes to the clonal expansion, survival, and development of T cells. In addition, 4-1BBL expression is found on dendritic cells, follicular dendritic cells, natural killer cells, granulocytes and cells of blood vessel walls at sites of inflammation. CD137 has been shown to interact with TRAF2. The human 4-1BBL gene codes for a 254 amino acid type II transmembrane containing a 28 amino acid cytoplasmic domain, a 21 amino acid transmembrane domain, and a 205 amino acid extracellular domain (ECD). The human 4-1BBL ECD shares 32 % and 35 % a.a. identity with murine and rat ECD.

## Reference

1. Salih HR, Kiener PA, Nussler V. 2002. Int J Clin Pharmacol Ther. 40:348-53
2. Jang IK, Lee ZH, Kim YJ, et al. 1998. Biochem Biophys Res Commun. 242:613-20
3. Michel J, Pauly S, Langstein J, et al. 1999. Immunology. 98:42-6
4. Alderson MR, Smith CA, Tough TW, et al. 1994. Eur J Immunol. 24:2219-27.

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