

Recombinant Human 4-1BB Ligand Protein

Size / Cat.No.: 50µg / GMP-TL695-0050

100µg / GMP-TL695-0100

Product Name

Generic Name Recombinant Human 4-1BB Ligand Protein

Synonym 4-1BB Ligand, TNFSF9, CD137L

Product Information

Protein sequence	A DNA sequence encoding the human 4-1BB Ligand (NP_003802.1) was expressed with a Fc-tag at the C-terminus.
Expression Host	HEK293 cells
QC Testing Purity	> 90 % as determined by SDS-PAGE.
Activity	Measured by its ability to induce IL-8 secretion by PBMC. The ED ₅₀ for this effect is ≤ 10 ng/mL.
Endotoxin	< 0.1EU per 1 µg of the protein by the LAL method.
Molecular Mass	The recombinant human 4-1BB Ligand protein consists of 467 amino acids and predicts a molecular mass of 51 kD.
Formulation	Lyophilized from sterile PBS, pH 7.4. Normally 6 % mannitol are added as protectants before lyophilization.
Stability & Storage	<p>24 months at 2°C to 8°C in lyophilized state.</p> <p>6 months at -20°C under sterile conditions after reconstitution.</p> <p>12 months at -80°C under sterile conditions after reconstitution.</p> <p>Recommend to aliquot the protein into smaller quantities after reconstituting with water for injection, normal saline or PBS, and keep the diluted concentration above 100µg/mL.</p> <p>Avoid repeated freeze-thaw cycles.</p>

Background

4-1BB ligand (4-1BBL), also known as CD137L or TNFSF9, is a member of the tumor necrosis factor (TNF) family expressed on activated antigen-presenting cells. Its receptor, 4-1BB, is a member of the TNF receptor family expressed on activated CD4 and CD8 T cells. In response to 4-1BB Ligand binding, 4-1BB transduces a co-stimulatory signal that promotes the proliferation, activation, and survival of CD4⁺ and CD8⁺ T cells. T cell co-stimulation through CD28 is important for the initial T cell expansion, while 4-1BB acts later in the response. Furthermore, 4-1BBL may play a role in cognate interactions between T-cells and B-cells/macrophages. As for diseases, 4-1BBL is involved in cancers, infectious diseases and autoimmune diseases.

References

1. 4-1BB Ligand Signaling to T cells Limits T cell Activation So-Young Eun, Seung-Woo Lee, Yanfei Xu, Michael Croft J Immunol. Author manuscript; available in PMC 2016 Jan 1. Published in final edited form as: J Immunol. 2015 Jan 1;194(1): 134–141. Published online 2014 Nov 17. doi: 10.4049/jimmunol.1401383.
2. 4-1BB ligand activates bystander dendritic cells to enhance immunisation in trans Douglas C Macdonald, Alastair Hotblack, Saniath Akbar, Gary Britton, Mary K Collins, William C Rosenberg J Immunol. Author manuscript; available in PMC 2015 May 15. Published in final edited form as: J Immunol. 2014 Nov 15; 193(10): 5056–5064. Published online 2014 Oct 10. doi: 10.4049/jimmunol.1301723.
3. A functional recombinant human 4-1BB ligand for immune co-stimulatory therapy of cancer Marcia Meseck, Tiangu Huang, Ge Ma, George Wang, Shu-Hsia Chen, Savio LC Woo J Immunother. Author manuscript; available in PMC 2012 Mar 1. Published in final edited form as: J Immunother. 2011 Mar; 34(2): 175–182. doi: 10.1097/CJI.0b013e318206dac1.