

# LeadGMP® Human 4-1BBL Protein, His Tag, E. coli

Catalog Number LDG020PHE-GMP

**Package** 100 μg / 1 mg / Customized package

For full product information, images and publications, please visit our website.



# **Specifications**

**Species of Origin** 

Human

**Affinity Tag** 

His Tag (C-term)

**Purity** 

>95% as determined by SDS-PAGE analysis.

**Activity** 

Measure by its ability to induce IL-8 secretion in human PBMCs. The ED $_{50}$  for this effect is 1-5 ng/mL.

Mycoplasma

Not detected

**Expression system** 

Escherichia coli

**Buffer** 

Lyophilized from a 0.2  $\mu m$  filtered solution of PBS, pH 7.4.

Molecular weight

The protein has a calculated MW of 20.4 kDa. The protein migrates as 20 kDa under reducing condition (SDS-PAGE analysis).

**Endotoxin level** 

<0.05 EU per 1  $\mu g$  of the protein by the LAL method.

**Form** 

Lyophilized

# Background



#### **Background**

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 NFkB, c-Jun, and p38 downstream signal pathways activation.

Therefore, 4-1BB and 4-1BBL are recently used for the immunotherapy of cancer.

**Uniprot ID** 

P41273

#### **Synonyms**

Tumor necrosis factor ligand superfamily member 9

**Sequence Note** 

Arg71-Glu254

# Instruction

#### Reconstitution

It is recommended to reconstitute the lyophilized protein in sterile H<sub>2</sub>O to a concentration not less than 0.5 mg/mL and incubate the stock solution for at least 20 min to ensure sufficient re-dissolved.

#### **Shipping**

The product is shipped with polar packs. Upon receipt, store it immediately at -20°C or lower for long term storage.



### **Stability & Storage**

This product is stable after storage at:

- -20°C for 12 months in lyophilized state from date of receipt.
- -20°C or -80°C for 1 month under sterile conditions after reconstitution.

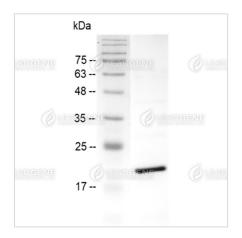
Avoid repeated freeze/thaw cycles.

#### **Manufacturing specifications**

LeadGMP® recombinant proteins are manufactured in ISO 13485:2016 and GMP certified facility. The processes include:

- Animal-free reagent and laboratory
- Manufactured and tested under GMP guideline
- Testing and traceability of raw material
- Records of the maintenance and equipment calibration
- Personnel training records
- Batch-to-batch consistency
- Documentation of QA control and process changes
- Manufactured and tested under an ISO 13485:2016 certified quality management system
- Stability monitor of product shelf-life

## **Image**



SDS-PAGE analysis of LeadGMP® 4-1BBL, Human

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