# Active Recombinant Human TNFRSF9 protein, Fc-tagged

**Cat. No.** TNFRSF9-232H **Lot. No.** (See product label)

## SPECIFICATION

| | |
|---|---|
| **Product Overview** | Recombinant Human TNFRSF9(Leu24-Gln186) fused with Fc region of Human IgG1 at C-terminal was expressed in HEK293. |
| **Species** | Human |
| **Source** | HEK293 |
| **ProteinLength** | 24-186 a.a. |
| **Description** | 4-1BB, also known as CD137 and TNFRSF9, is an approximately 30 kDa transmembrane glycoprotein in the TNF receptor superfamily. 4-1BB functions in the development and activation of multiple immune cells. Mature human 4-1BB consists of a 163 amino acid (aa) extracellular domain (ECD) with four TNFR cysteine-rich repeats, a 27 aa transmembrane segment, and a 42 aa cytoplasmic domain. Within the ECD, cynomolgus 4-1BB shares 95%, 57%, and 57% aa sequence identity with human, mouse, and rat 4-1BB, respectively. 4-1BB is expressed as a disulfide-linked homodimer on various populations of activated T cell including CD4+, CD8+, memory CD8+, NKT, and regulatory T cells as well as on myeloid and mast cell progenitors, dendritic cells, mast cells, and bacterially infected osteoblasts. It binds with high affinity to the transmembrane 4-1BB Ligand/TNFSF9 which is expressed on antigen presenting cells and myeloid progenitor cells. This interaction co-stimulates the proliferation, activation, and/or survival of the 4-1BB expressing cell. It can also enhance the activation-induced cell death of repetitively stimulated T cells. Mice lacking 4-1BB show |

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

| | |
|---|---|
| | augmented T cell activation, perhaps due to its absence on regulatory T cells. 4-1BB can associate with OX40 on activated T cells, forming a complex that responds to either ligand and inhibits Treg and CD8+ T cell proliferation. Reverse signaling through 4-1BB Ligand inhibits the development of dendritic cells, B cells, and osteoclasts but supports mature dendritic cell survival and co-stimulates the proliferation and activation of mast cells. 4-1BB activation enhances CD8+ T cell and NK cell mediated anti-tumor immunity. It also contributes to the development of inflammation in high fat diet-induced metabolic syndrome. Soluble forms of 4-1BB and 4-1BB Ligand circulate at elevated levels in the serum of rheumatoid arthritis and hematologic cancer patients, respectively. |
| **Predicted N Terminal** | Leu24 |
| **Form** | Lyophilized from a 0.2 μm filtered solution in PBS. |
| **Bio-activity** | Measured by its binding ability in a functional ELISA. When Recombinant Cynomolgus Monkey 4-1BB/TNFRSF9/CD137 Fc Chimera is immobilized at 0.05 μg/mL (100 μl/well), Recombinant Human 4-1BB Ligand/TNFSF9 binds with an ED50 of 0.25-1.25 ng/mL. |
| **Molecular Mass** | Predicted Molecular Mass: 44 kDa<br>SDS-PAGE: 56-66 kDa, reducing conditions |
| **Endotoxin** | <0.1 EU per 1 μg of the protein by the LAL method. |
| **Purity** | >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining. |
| **Storage** | Use a manual defrost freezer and avoid repeated freeze-thaw cycles.<br>12 months from date of receipt, -20 to -70 centigrade as supplied. |

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

| | |
|---|---|
| | 1 month, 2 to 8 centigrade under sterile conditions after reconstitution.<br>3 months, -20 to -70 centigrade under sterile conditions after reconstitution. |
| **Reconstitution** | Reconstitute at 500 µg/mL in PBS. |

## GENE INFORMATION

| | |
|---|---|
| **Gene Name** | TNFRSF9 tumor necrosis factor receptor superfamily, member 9 [ Homo sapiens ] |
| **Official Symbol** | TNFRSF9 |
| **Synonyms** | TNFRSF9; tumor necrosis factor receptor superfamily, member 9; ILA; tumor necrosis factor receptor superfamily member 9; 4 1BB; CD137; CD137 antigen; T cell antigen ILA; T-cell antigen ILA; 4-1BB ligand receptor; homolog of mouse 4-1BB; receptor protein 4-1BB; T-cell antigen 4-1BB homolog; induced by lymphocyte activation (ILA); interleukin-activated receptor, homolog of mouse Ly63; 4-1BB; CDw137; MGC2172; FLJ43501; |
| **Gene ID** | 3604 |
| **mRNA Refseq** | NM_001561 |
| **Protein Refseq** | NP_001552 |
| **MIM** | 602250 |
| **UniProt ID** | Q07011 |

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA