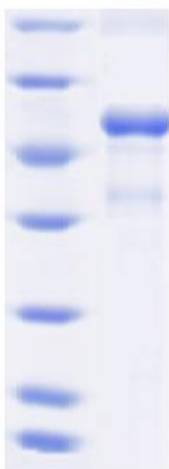


|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                            |                                                                                     |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------|
| Product Name          | Recombinant Human CD137L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | SDS-PAGE gel               |                                                                                     |
| Synonym(s)            | 4-1BB-L, 4-1BBL; CD137-L, TNFSF9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1                          | 2                                                                                   |
| Quantity              | 100 µg, 1 mg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | kDa                        | M                                                                                   |
| Species               | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 116                        |  |
| Class Type            | Recombinant Protein                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 66.2                       |                                                                                     |
| Molecular weight      | 47.9 kDa (predicted)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 45.0                       |                                                                                     |
| Purity                | ≥ 85% by SDS-PAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 35.0                       |                                                                                     |
| Tag                   | N-terminal human IgG1 Fc tag                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 25.0                       |                                                                                     |
| Expression Source     | HEK293                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 18.4                       |                                                                                     |
| GenBank Accession #   | NP_003802.1, Arg71-Glu254                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 14.4                       |                                                                                     |
| Application           | Western Blotting, Functional Studies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                            |                                                                                     |
| Endotoxin             | <1.0 EU/µg protein as determined by the LAL method.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                            |                                                                                     |
| Formulation           | Lyophilized from sterile PBS, pH7.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                            |                                                                                     |
| Storage and Stability | Stable for 12 months at -80°C, Avoid freeze/thaw cycles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1 – MW Marker<br>2 – CD137 |                                                                                     |
| Description           | 4-1BB 4-1BB ligand is the high affinity ligand of 4-1BB, also known as CD137L or TNFSF9. It is shown to be a type II surface glycoprotein belonging to the TNF superfamily. Expression of 4-1BBL is restricted to APCs, such as dendritic cells, macrophages, and activated B cells. Members of the TNF-TNF receptor super family have been shown to play critical roles in regulating cellular activation, differentiation and apoptosis. Several studies have reported that 4-1BBL/4-1BB interaction provided a costimulatory signal to T cells, and increased T cell proliferation and cytokines production. In addition, 4-1BBL is involved in cancers, infectious diseases and autoimmune diseases. |                            |                                                                                     |
| Reference             | Cheung CT, (2007) Neutralizing anti-4-1BBL treatment improves cardiac function in viral myocarditis. Lab Invest. 87(7):651-61.<br>Wang C, <i>et al.</i> (2009) Immune regulation by 4-1BB and 4-1BBL: complexities and challenges. Immunol Rev. 229(1):192-215.<br>Habib-Agahi M, <i>et al.</i> (2009) 4-1BBL costimulation retrieves CD28 expression in activated T cells. Cell Immunol. 256(1-2):39-46.                                                                                                                                                                                                                                                                                                |                            |                                                                                     |

## Related products:

| <b>Product Name</b>          | <b>Catalog #</b> | <b>Size</b> |
|------------------------------|------------------|-------------|
| Recombinant Human PD-L1      | 237351           | 100 µg      |
| Recombinant Human CD40       | 232340           | 100 µg      |
| Recombinant Human CD40L      | 2323405          | 100 µg      |
| Recombinant Human CD70       | 232370           | 100 µg      |
| Recombinant Human CD155      | 2323155          | 100 µg      |
| Recombinant Human SIRP-alpha | 2374772          | 100 µg      |
| Recombinant Human OX40       | 236940           | 100 µg      |

|                                                     |                |                             |
|-----------------------------------------------------|----------------|-----------------------------|
| Recombinant Human OX40L                             | 2369405        | 100 ug                      |
|                                                     |                |                             |
| DNA Polymerase Theta Activity Assay Kit             | 362101         | 96 reactions                |
| DNA Polymerase Theta-N-Helicase Domain              | 7657643        | 20 ug, 100 ug               |
| DNA Polymerase Theta-C terminal Domain              | 7657283        | 20 ug, 100 ug, 1 mg         |
| DNA Polymerase Theta Full Length protein            | 7657385        | 10 ug, 50 ug                |
|                                                     |                |                             |
| T7 RNA polymerase                                   | 777627         | 5000 U, 25000U, 100000U     |
| T7 High Yield RNA Synthesis Kit                     | 777627-RK      | 25 rxns, 50 rxns, 100 rxns  |
|                                                     |                |                             |
| Recombinant Mouse Leukemia Inhibitory Factor (mLIF) | 11-0001        | 10 ug, 100 ug               |
|                                                     |                |                             |
| Recombinant Human LIF                               | 12-0002        | 10 ug, 100 ug, 1 mg         |
|                                                     |                |                             |
| Recombinant Human LIF, Animal-Free                  | 12-0002AFR     | 10 ug, 100 ug, 1 mg         |
|                                                     |                |                             |
| Recombinant Human FGF-basic, Carrier-free           | 12-0005CFR     | 50 ug, 100 ug, 500 ug, 1 mg |
|                                                     |                |                             |
| Kras Wild Type (WT), GST-tag                        | 5727-4121G     | 50 µg, 100 µg               |
| Kras WT, GST-tag, GDP Loaded                        | 5727-WTG-G     | 50 µg, 100 µg               |
| Kras WT, GST-tag, GppNHp loaded                     | 5727-WTG-GP    | 50 µg, 100 µg               |
|                                                     |                |                             |
| Kras G12C, GST-tag                                  | 5727-4122G     | 50 µg, 100 µg               |
| Kras G12C, GST-tag, GDP Loaded                      | 5727-4122G -G  | 50 µg, 100 µg               |
| Kras G12C, GST-tag, GppNHp loaded                   | 5727-4122G -GP | 50 µg, 100 µg               |
|                                                     |                |                             |
| Kras G12C Nucleotide Exchange Assay Kit             | 5727-4122NK    | 384 reactions               |
|                                                     |                |                             |
| Kras G12C – cRAF Binding Assay Kit                  | 5727-4122BK    | 384 reactions               |
|                                                     |                |                             |
| Human RBD-RAF1, N-His tag, C-FLAG tag               | 7237231        | 50 µg, 100 µg               |
|                                                     |                |                             |
| Human SOS1, No Tag                                  | 7671           | 50 µg, 100 µg               |
| Human SOS1, His-Avi-Tag                             | 7671HA         | 50 µg, 100 µg               |
|                                                     |                |                             |

This product is for research use only and not for diagnostic or therapeutic use.