

#### DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Mouse                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects mouse 4-1BB Ligand/TNFSF9 in direct ELISAs and Western blots. In Western blots, approximately 5% cross-reactivity with recombinant mouse (rm) Fas Ligand is observed and less than 1% cross-reactivity with rmOX40 Ligand, rmTWEAK, rmTR                            |
| <b>Source</b>             | Polyclonal Goat IgG                                                                                                                                                                                                                                                         |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | <i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant mouse 4-1BB Ligand/TNFSF9<br>Arg104-Glu309<br>Accession # P41274                                                                                                                                    |
| <b>Conjugate</b>          | Alexa Fluor 405<br>Excitation Wavelength: 405 nm<br>Emission Wavelength: 421 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

#### APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

**Western Blot** Optimal dilution of this antibody should be experimentally determined.

#### PREPARATION AND STORAGE

**Shipping** The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

#### BACKGROUND

4-1BB ligand (4-1BBL) is a type II transmembrane glycoprotein belonging to the TNF superfamily (TNFSF) and has been designated TNFSF9. Mouse 4-1BBL cDNA encodes a 309 amino acid residues (aa) protein with an 82 aa N-terminal cytoplasmic domain, a 21 aa transmembrane domain and a 206 aa C-terminal extracellular domain. The extracellular domain of 4-1BBL has a tertiary structure similar to that of other TNFSF members, but shares only low aa sequence homology (14-16%). Murine 4-1BBL shares 36% aa sequence identity with its human counterpart (1, 2). 4-1BBL is predominantly expressed on activated antigen presenting cells (APCs) such as B cells, macrophages and dendritic cells (DCs). It is also expressed on most T and B lymphoma cell lines (3). A soluble 4-1BBL is released from the cell surface following cellular activation via proteolytic cleavage by one or more sheddases (4). By analogy to other TNFSF ligands, both the soluble and transmembrane 4-1BBL are expected to exist as non-covalent homotrimers. 4-1BBL binds 4-1BB, a TNF receptor superfamily member, TNFRSF9, which is also known as CD137 and ILA (induced by lymphocyte activation). 4-1BB is expressed on activated CD4<sup>+</sup> and CD8<sup>+</sup> T cells, thymocytes, and NK cells. It is also expressed on monocytes, neutrophils, DCs and eosinophils. In response to 4-1BBL binding, 4-1BB transduces a T cell costimulatory signal in both CD4<sup>+</sup> and CD8<sup>+</sup> T cells to promote survival and enhance proliferation, cytokine production and effector function. In dendritic cells, 4-1BB is a DC-activating molecule that enhances cytokine production and up-regulates expression of B7-1 and B7-2 costimulatory molecules (3).

#### PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc., and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.