

DESCRIPTION

| | |
|---------------------------|---|
| Species Reactivity | Mouse |
| Specificity | Detects mouse CD27 in direct ELISAs and Western blots. In Western blots; does not cross-react with recombinant human (rh) CD27, recombinant mouse (rm) CD40, rmGITR, rhDR6, rhTRAIL R4, rmHVEM, rmCD30, rmRANK, rmFas, rmTRAIL R2, rhTRADD, rm4-1BB, rmLTβ R, rmOPG, rmNGFR, rmDR3, rmBAFF R, rhTRAIL R3, rmTAJ, rmEDAR, rmOX-40, rmTWEAK R, rmTNF R1, rhRELT, or rmTRAIL R1. |
| Source | Monoclonal Rat IgG _{2A} Clone # 137915 |
| Purification | Protein A or G purified from hybridoma culture supernatant |
| Immunogen | Mouse myeloma cell line NS0-derived recombinant mouse CD27/TNFRSF7 Thr21-Arg182 Accession # P41272 |
| Conjugate | Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm |
| Formulation | Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *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.

| | Recommended Concentration | Sample |
|-----------------------|----------------------------------|-------------------|
| Flow Cytometry | 0.25-1 µg/10 ⁶ cells | Mouse splenocytes |

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

CD27 is a lymphocyte-specific member of the tumor necrosis factor receptor superfamily (TNFRSF) and is designated TNFRSF7 (1, 2). Mouse CD27 cDNA encodes a 250 amino acid (aa) residue type I transmembrane protein with a 20 aa putative signal peptide, a 162 aa extracellular region containing three TNFR cysteine-rich repeats, a 21 aa transmembrane domain and a 47 aa cytoplasmic region (3). Mouse and human CD27 share approximately 65% amino acid identity. CD27 exists as homodimers on the cell surface via an extracellular disulfide bond in the membrane-proximal region. A soluble form of CD27 is also produced during the immune response and is found in various body fluids (4). CD27 is expressed on subsets of T and B cells. The expression of CD27 is upregulated upon T cell activation. Although CD27 appears to be a marker for human memory B cells, it is only expressed in a small population of mouse B cells in germinal centers and at sites of B cell stimulation, suggesting that mouse CD27 may be a marker for activated B cells (5). CD27 interacts with CD27 ligand (also named CD70 and TNFSF7), which is a member of the TNF ligand superfamily. Ligation of CD27 on T cells provides costimulatory signals that are required for T cell proliferation, clonal expansion and the promotion of effector T cell formation (1, 2). Ligation of CD27 on B cells has been shown to inhibit terminal differentiation of activated mouse B cells into plasma cells and enhances commitment to memory B cell responses (5).

References:

1. Croft, M. (2003) *Nature Reviews Immunol.* **3**:609.
2. Croft, M. (2003) *Cytokine and Growth Factor Reviews* **14**:265.
3. Gravestain, L.A. *et al.* (1993) *Eur. J. Immunol.* **23**:943.
4. Lens, S.M. *et al.* (1998) *Semin. Immunol.* **10**:491.
5. Raman, V.S. *et al.* (2003) *J. Immunol.* **171**:5876.

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.