

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 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 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. Gravestine, 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.

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