

DESCRIPTION

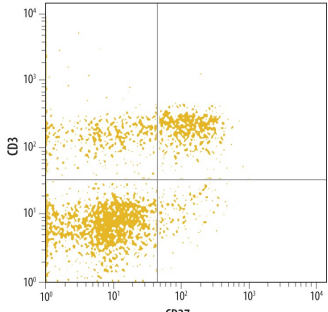
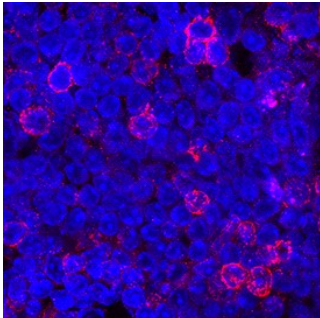
Species Reactivity	Mouse
Specificity	Detects mouse CD27 in direct ELISAs and Western blots. In Western blots; does not cross-react with recombinant human (rh) CD27, recombinant mouse (rm) CD40, rmGITR, rhDR6, rhTRAIL R4, rmHVEM, rmCD30, rmRANK, rmFas, rmTRAIL R2, rhTRADD, rm4-1BB, rmLTβ R, rmOPG, rmNGFR, rmDR3, rmBAFF R, rhTRAIL R3, rmTAJ, rmEDAR, rmOX-40, rmTWEAK R, rmTNF R1, rhREL1, 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
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

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	2.5 µg/10 ⁶ cells	See Below
Immunocytochemistry	8-25 µg/mL	See Below
Mouse CD27/TNFRSF7 Sandwich Immunoassay		Reagent
ELISA Capture	2-8 µg/mL	Mouse CD27/TNFRSF7 Antibody (Catalog # MAB5741)
ELISA Detection Standard	0.5-2.0 µg/mL	Mouse CD27/TNFRSF7 Biotinylated Antibody (Catalog # BAM5741) Recombinant Mouse CD27/TNFRSF7 Fc Chimera (Catalog # 574-CD)
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA

<p>Flow Cytometry</p>  <p>Detection of CD27/TNFRSF7 in Mouse Splenocytes by Flow Cytometry. Mouse splenocytes were labeled with Mouse CD27/TNFRSF7 Monoclonal Antibody (Catalog # MAB5741) followed by Allophycocyanin-conjugated Anti-Rat IgG F (ab')₂ Secondary Antibody (Catalog # F0113) and Mouse CD3 Fluorescein-conjugated Monoclonal Antibody (Catalog # FAB4841F). Quadrant markers were set based on control antibody staining (Catalog # MAB006).</p>	<p>Immunocytochemistry</p>  <p>CD27/TNFRSF7 in Mouse Splenocytes. CD27/TNFRSF7 was detected in immersion fixed mouse splenocytes using Rat Anti-Mouse CD27/TNFRSF7 Monoclonal Antibody (Catalog # MAB5741) at 8 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Rat IgG Secondary Antibody (red; Catalog # NL013) and counterstained with DAPI (blue). Specific staining was localized to plasma membrane. View our protocol for Fluorescent ICC Staining of Non-adherent Cells.</p>
--	--

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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. Gravestien, 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.