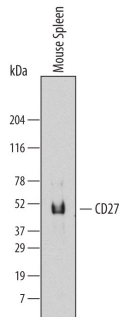
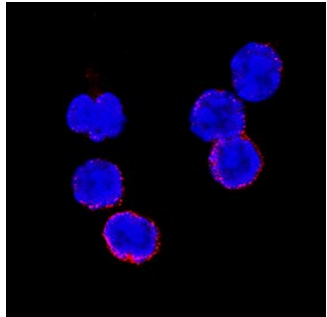


| DESCRIPTION | |
|---------------------------|--|
| Species Reactivity | Mouse |
| Specificity | Detects mouse CD27 in direct ELISAs and Western blots. In Western blots, does not cross-react with recombinant human (rh) CD27, rhCD30, rhCD40, rhDR3, rhDR6, rhFas Ligand, rhTRAIL R3, rhTRAIL R4, rhLTβ R, rhNGF-R1, rh4-1BB, rhGITR, rhTNFR1, rhTNF RII, rhBAFF, rhTAJ, rhEDA, rhOPG, rhRELt, rhRANK, recombinant mouse (rm) CD30, rmCD40, rmGITR, rmHVEM, rmRANK, rmFas, rmTRAIL R2, rm4-1BB, rmLTβ R, rmOPG, rmNGFR, rmDR3, rmBAFF R, rmEDAR, rmOX-40, rmTWEAK R, rmTNF R1, recombinant rat Fas, or recombinant feline Fas. |
| Source | Monoclonal Rat IgG _{2A} Clone # 137910 |
| 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 as a 0.2 μm filtered solution in PBS. |

| APPLICATIONS | | |
|--|----------------------------------|---------------|
| Please Note: Optimal dilutions should be determined by each laboratory for each application. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website. | | |
| | Recommended Concentration | Sample |
| Western Blot | 2 μg/mL | See Below |
| Immunocytochemistry | 8-25 μg/mL | See Below |

| DATA | |
|---|---|
| <p>Western Blot</p>  <p>Detection of Mouse CD27/TNFRSF7 by Western Blot. Western blot shows lysates of mouse spleen tissue. PVDF Membrane was probed with 2 μg/mL of Mouse CD27/TNFRSF7 Monoclonal Antibody (Catalog # MAB574) followed by HRP-conjugated Anti-Rat IgG Secondary Antibody (Catalog # HAF005). A specific band was detected for CD27/TNFRSF7 at approximately 45 kDa (as indicated). This experiment was conducted under reducing conditions and using <i>Immunoblot Buffer Group 7</i>.</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 # MAB574) 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 <i>Fluorescent ICC Staining of Non-adherent Cells</i>.</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.