

## DESCRIPTION

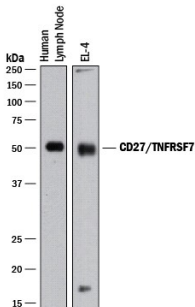
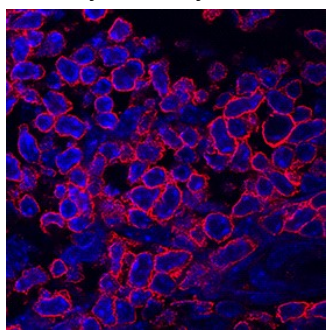
<b>Species Reactivity</b>	Human/Mouse
<b>Specificity</b>	Detects human and mouse CD27/TNFRSF7 in Western blots.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant mouse CD27/TNFRSF7 Thr21-Arg182 Accession # P41272
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the antibody by the LAL method.
<b>Formulation</b>	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
<b>Western Blot</b>	2 µg/mL	See Below
<b>Flow Cytometry</b>	0.25 µg/10 <sup>6</sup> cells	Mouse splenocytes
<b>Immunocytochemistry</b>	3-15 µg/mL	See Below
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

## DATA

<p><b>Western Blot</b></p>  <p><b>Detection of Human and Mouse CD27/TNFRSF7 by Western Blot.</b> Western blot shows lysates of human lymph node tissue and EL-4 mouse lymphoblast cell line. PVDF membrane was probed with 2 µg/mL of Goat Anti-Human/Mouse CD27/TNFRSF7 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF574) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for CD27/TNFRSF7 at approximately 50 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p><b>Immunocytochemistry</b></p>  <p><b>CD27/TNFRSF7 in Mouse Splenocytes.</b> CD27/TNFRSF7 was detected in immersion fixed mouse splenocytes using Goat Anti-Human/Mouse CD27/TNFRSF7 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF574) at 3 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained with DAPI (blue). Specific staining was localized to plasma membrane. View our protocol for <a href="#">Fluorescent ICC Staining of Non-adherent Cells</a>.</p>
---	---

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## 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.