

DESCRIPTION

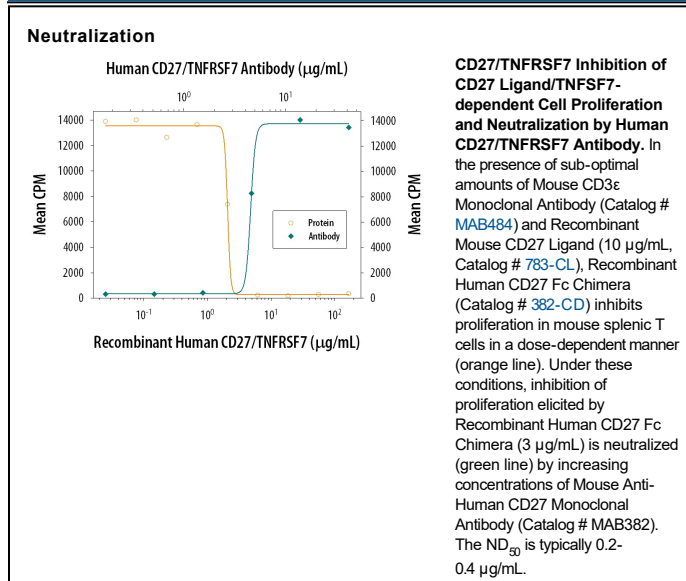
Species Reactivity	Human
Specificity	Detects human CD27 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human (rh) 4-1BB, rhBAFF R, recombinant mouse (rm) CD27, rhCD30, rhCD40, rhDR3, rhDR6, rhEDAR, rhFas, rhGITR, rhHVEM, rhLTRβ, rhNGF R, rhOPG, rmOX40, rhRANK, rhTAJ, or rhTNF RI is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 57703
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human CD27 Thr21-Ile192 Accession # P26842
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
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
Western Blot	1 µg/mL	Recombinant Human CD27/TNFRSF7 Fc Chimera (Catalog # 382-CD)
Flow Cytometry	2.5 µg/10 ⁶ cells	Human whole blood lymphocytes
CytoF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
Neutralization	Measured by its ability to neutralize CD27/TNFRSF7-induced inhibition of proliferation in mouse splenic T cells. The Neutralization Dose (ND ₅₀) is typically 0.2-0.4 µg/mL in the presence of 3 µg/mL Recombinant Human CD27/TNFRSF7 Fc Chimera, 10 µg/mL Recombinant Mouse CD27 Ligand/TNFSF7, and sub-optimal amounts of Mouse CD3ε Monoclonal Antibody.	

DATA



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

Human CD27 is a lymphocyte-specific member of the TNF receptor superfamily. CD27 is expressed on a subset of human thymocytes and on the majority of mature T cells. CD27 expression is up-regulated after TCR stimulation. Within the CD4⁺ compartment, it is preferentially expressed on CD45RA⁺ cells. In contrast, it is preferentially expressed on CD45RO⁺ cells in the CD8⁺ compartment. CD27 also appears to be a potential marker for memory B cells. It exists as both a disulfide-linked dimer on the cell surface and as a soluble protein found in serum. Human CD27 is a 260 amino acid (aa) protein with a 20 aa signal, a 173 aa extracellular domain, a 20 aa transmembrane domain, and a 47 aa cytoplasmic domain. The ligand for CD27 is CD70. CD70 is expressed on thymic stromal cells and a small subset of activated T cells. Additionally a subset of activated B cells express CD70. The CD27/CD70 interaction appears to be a weak costimulatory pathway involved in T cell and B cell immune response. CD27/CD70 interactions may be more involved in controlling the expansion phase of an immune response. This would be in contrast to B7/CD28 interactions, which are important for the activation phase of immune responses.

References:

1. Camerini, D. *et al.* (1991) *J. Immunol.* **147**:3165.
2. Loenen, W.A. *et al.* (1992) *J. Immunol.* **149**:3937.
3. Lens, S.M.A. *et al.* (1998) *Sem. Immunol.* **10**:491.