

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse CD40 Ligand in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant mouse (rm) CD27 Ligand, rmCD30 Ligand, or recombinant human CD40 Ligand is observed.
Source	Monoclonal Rat IgG _{2A} Clone # 208109
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse CD40 Ligand/TNFSF5 Glu61-Leu260 Accession # P27548
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 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 stimulated to induce Th1 cells

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. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

CD40 ligand (CD40L; also known as CD154, TNFSF5, TRAP, or gp39) is a 260 amino acid (aa) type II transmembrane glycoprotein belonging to the TNF family. Mouse CD40L consists of a 22 aa cytoplasmic domain, a 24 aa transmembrane domain, and 214 aa extracellular domain bearing a single glycosylation site (1, 2). CD40L is expressed predominantly on activated CD4⁺ T lymphocytes and also found in other types of cells, including NK cells, mast cells, basophils, and eosinophils. Murine CD40L shares 78% amino acid sequence identity with human CD40L. Native bioactive soluble CD40L exists. Soluble human trimeric CD40L secreted by stimulated T cells has been shown to be generated by proteolysis in the microsomes (3). Both membrane bound and soluble CD40L induce similar effects on B cells (3, 4). The receptor of CD40L is CD40, a type I transmembrane glycoprotein belonging to the TNF receptor family. CD40 is expressed on B lymphocytes, monocytes, dendritic cells, and thymic epithelium. Although all monomeric, dimeric, and trimeric forms of soluble CD40L can bind to CD40, the soluble trimeric form of CD40L has the most potent biological activity through oligomerization of cell surface CD40, a common feature of TNF receptor family members (2). The genetic defect in the hyper-IgM syndrome is due to point mutations or deletions of the gene encoding the CD40L, which prevent CD40L from interacting with CD40 (5-7). CD40L mediates a range of activities on B cells including induction of activation-associated surface antigen, entry into the cell cycle, isotype switching, Ig secretion, and memory generation (8, 9). CD40-CD40L interaction also plays important roles in monocyte activation and dendritic cell maturation (10).

References:

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4. Fabienne, P. *et al.* (1996) *Eur. J. Immunol.* **26**:725.
5. Arrufo, A. *et al.* (1993) *Cell* **72**:291.
6. Hill, A. and N. Chapel *et al.* (1993) *Nature* **361**:494.
7. Korthauer, U. *et al.* (1993) *Nature* **361**:539.
8. Spriggs, M.K. *et al.* (1992) *J. Exp. Med.* **176**:1543.
9. Fanslow, W.C. *et al.* (1994) *Seminars in Immunology* **6**:267.
10. Kooten, C.V. and J. Banchereau (2000) *J. Leukoc. Biol.* **67**:2.

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**Mouse CD40 Ligand/TNFSF5
Alexa Fluor® 405-conjugated Antibody**

Monoclonal Rat IgG_{2A} Clone # 208109

Catalog Number: FAB1163V
100 µg
