Mouse CD40/TNFRSF5 Antibody

Antigen Affinity-purified Polyclonal Goat IgG

Catalog Number: AF440

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse CD40/TNFRSF5 in direct ELISAs and Western blots. In Western blots, less than 1% cross-reactivity with recombinant human CD40 is observed. For B cell activation, the use of R&D Systems monoclonal anti-mouse CD40 antibody (Catalog # MAB440) is recommended.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse CD40/TNFRSF5 Val24-Arg193 Accession # P27512
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.

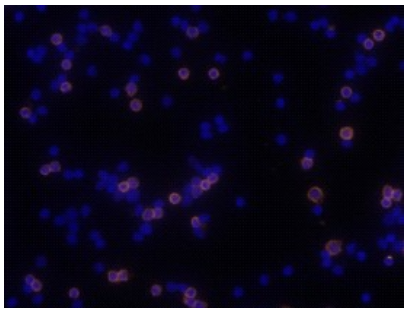
APPLICATIONS

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	0.1 µg/mL	Recombinant Mouse CD40/TNFRSF5 Fc Chimera (Catalog # 1215-CD)
Immunocytochemistry	5-15 µg/mL	See Below

DATA

Immunocytochemistry



CD40/TNFRSF5 in Mouse Splenocytes.
CD40/TNFRSF5 was detected in immersion fixed mouse splenocytes using 10 µg/mL Goat Anti-Mouse CD40/TNFRSF5 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF440) for 3 hours at room temperature. Cells were stained with the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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.** ● 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.

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BACKGROUND

CD40 is a type I transmembrane glycoprotein belonging to the TNF receptor superfamily. The mature mCD40 consists of a 172 amino acid (aa) extracellular domain, a 22 aa transmembrane region and a 90 aa cytoplasmic domain (1). CD40 is expressed on B cells, follicular dendritic cells, dendritic cells, activated monocytes, macrophages, endothelial cells, vascular smooth muscle cells, and several tumor cell lines (2). The extracellular domain has the cysteine-rich repeat regions, which are characteristic for many of the receptors of the TNF superfamily. Interaction of CD40 with its ligand, CD40L, leads to the aggregation of CD40 molecules, which in turn interact with cytoplasmic components to initiate signaling pathways. Early studies on the CD40-CD40L system revealed its role in humoral immunity. Interaction between CD40L on T cells and CD40 on B cells stimulated B cell proliferation and provided the signal for immunoglobulin isotype switching (3). Mutations in the CD40L gene, which resulted in a CD40L molecule unable to interact with CD40, are responsible for the hyper-IgM syndrome (4). Cross-linking of CD40 with antibodies or by binding to CD40L produces cell type-specific responses which include costimulation and induction of proliferation, induction of cytokine production, rescue from apoptosis, and upregulation of adhesion molecules (5). Some of the early events of intracellular signaling by the CD40-CD40L system include the association of the CD40 with TRAFs and the activation of various kinases (6-8).

References:

1. Torres, R.M. and E.A. Clark (1992) J. Immunol. **148**:620.
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3. Armitage, R.J. *et al.* (1993) J. Immunol. **150**:3671.
4. Callard, R.E. *et al.* (1993) Immunol. Today **14**:559.
5. Stout, R.D. and J. Suttles (1996) Immunol. Today **17**:487.
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7. Faris, M. *et al.* (1994) J. Exp. Med. **179**:1923.
8. Hanissian, S.H. and R.S. Geha (1997) Immunity **6**:379.

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