

Anti-CD40 antibody, mouse monoclonal (5C3), FITC conjugated

72-031 50 µg (US\$ 210)

Shipment and Storage: Ship at 4°C and stored at -20°C. Do not freeze below -20°C

Immunogen: Recombinant extracellular domain of CD40

Form: 1.0 mg/ml in PBS- with 50% glycerol, filter-sterilized

Purity: The antibody was produced from hybridoma (5C3) cultured in serum-free medium and purified under mild conditions by proprietary chromatography processes.

Isotype: Mouse IgG1 κ

Reactivity: Human

Applications:

1. Flow-cytometry
2. Immunofluorescence staining (1/10~1/100)
3. Immunohistochemistry (acetone-fixed frozen section;)

Background: CD40 is a 45-50-kDa glycoprotein belonging to the tumor necrosis factor (TNF) receptor superfamily. CD40 is specifically expressed on the surface of B cells and specialized antigen-presenting cells such as dendritic cells and macrophages. CD40 interacts with the CD40 ligand (CD154) which is found primarily on T cells, playing a role in both humoral and cell-mediated immune responses. Activation of CD40 on B cells by CD40 ligand causes B cell proliferation, differentiation, immunoglobulin isotype switching, germinal center formation, and stimulation of the humoral memory response. CD40 is 45-48 kDa type I integral membrane glycoprotein present on peripheral blood and tonsillar B cells, but not expressed on terminally differentiated B cells.

Data Link: Swiss-Prot [P25942](#)

References: This antibody is used in the following publications

1. Inui S *et al* (1990) "Identification of the intracytoplasmic region essential for signal transduction through a B cell activation molecule, CD40." *Eur J Immunol* **20**: 1747-1753 PMID: [1698631](#)
2. Yasui T *et al* (2002) "Dissection of B cell differentiation during primary immune responses in mice with altered CD40 signals." *Int Immunol* **14**: 319-329 PMID: [11867568](#)
3. Ishida I *et al* (2003) "Involvement of CD100, a lymphocyte semaphoring, in the activation of the human immune system via CD72: implications for the regulation of immune and inflammatory responses." *Int Immunol*. **15**: 1027-1034 PMID: [12882840](#)

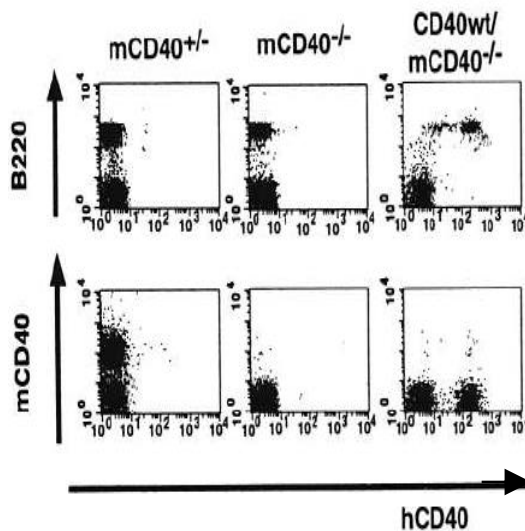


Fig.1 Flow-cytometry analysis of human CD40 expression in transgenic mouse. Splenocytes from m (mouse) CD40^{+/+}, mCD40^{-/-} and hCD40 wild type/mCD40^{-/-} mice were stained with monoclonal antibodies against mCD40, B220 and hCD40 (5C3) and analyzed by flow cytometry. hCD40 molecules were expressed specifically on B220⁺ B cells.

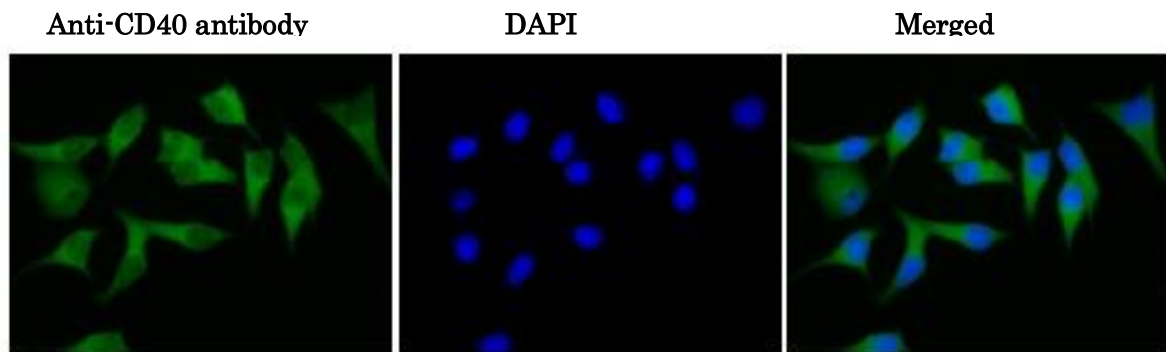


Fig.2 Immunofluorescence staining of CD40 in MCF7 cells with FITC-conjugated anti-CD40 antibody.

Cells were fixed with 4% paraformaldehyde, permeabilized with 0.25% Triton X-100 and stained with FITC-conjugated anti-CD40 antibody (5CS) at 1/20 dilution (left). Nuclear DNA was stained with DAPI (middle). Merged image is shown on right.

Related products: #72-030 anti-CD40 antibody (5C3).

#72-031 anti-CD40 antibody (5C3), Biotin