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

72-032 50 µg

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.

This antibody reacts with a 45-48 kDa type I integral membrane glycoprotein present on peripheral blood and tonsillar B cells, but not expressed on terminally differentiated B cells.

The antibody against human **CD40** was produced from hybridoma (5C3) cultured in serum-free medium and purified under mild conditions by proprietary chromatography processes.

Applications:

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

Isotype: Mouse IgG1□

Immunogen: Recombinant extracellular domain of CD40

Conjugate: [FITC] / [IgG] = 5.5

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

Specificity: Human

Storage: Shipped at 4℃ and stored at -20℃

Data Link: Swiss-Prot P25942

References: This antibody is used in ref.2 and 3.

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

Related products: #72-030 anti-CD40 antibody (5C3).
#72-031 anti-CD40 antibody (5C3), Biotin

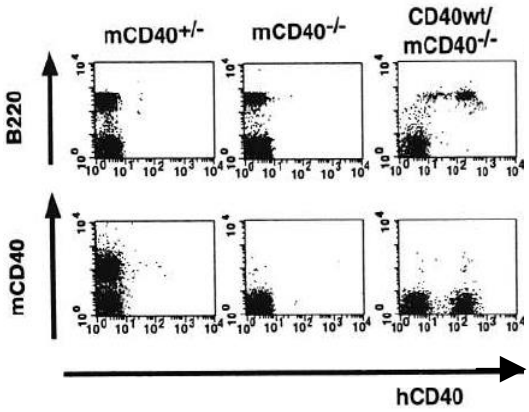

Fig.1 Flow-cytometry analysis of human CD40 expression in transgenic mouse. Splenocytes from m (mouse) $CD40^{+/-}$, $mCD40^{-/-}$ and hCD40 wild type/$mCD40^{-/-}$ mice were stained with monoclonal antibodies against mCD40, B220 and hCD40 (5C3) and analyzed by flow cytometry. hCD40 molecules were expressed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

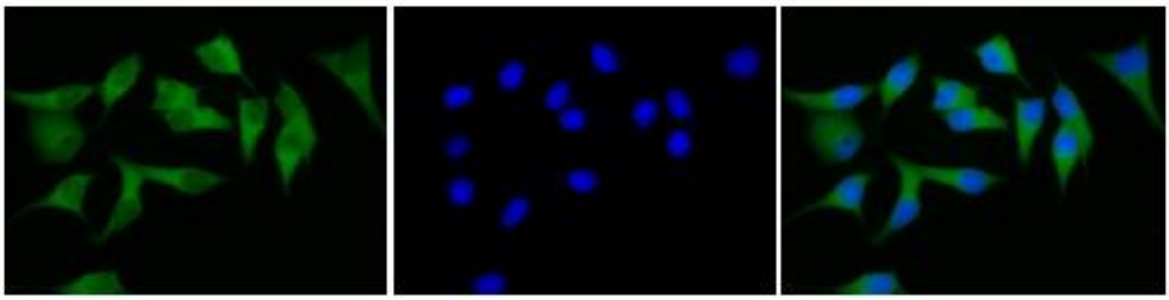

Fig.2 Immunofluorescence staining of CD40 in MCF7 cells with FITC-conjugated anti-CD40 antibody.

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.