

## **Anti-CD40 antibody, mouse monoclonal (5C3), Biotin conjugated**

**72-031      50 µg      (US\$ 210)**

**Shipping and Storage:** Shipped at 4°C or -20°C and stored at -20°C.

**Immunogen:** Recombinant extracellular domain of CD40

**Form:** 0.75~1.0 mg/ml in PBS- with 50% glycerol, filter-sterilized

**Isotype:** Mouse IgG1  $\kappa$

**Reactivity:** Human

### **Applications:**

1. Flow-Cytometry
2. Immuno-fluorescent staining
3. Immunohistochemistry 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.

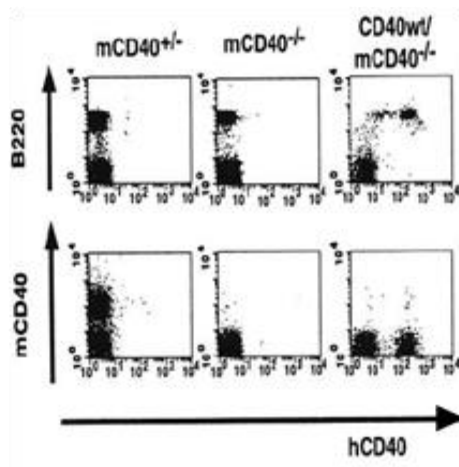
This antibody reacts with a 45-48 kDa type I integral membrane glycoprotein present on peripheral blood and tonsillar B cells, but not expressed on terminally differentiated B cells.

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

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

**References:** This antibody has been used in 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: [16986312](#). **FC**
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](#) **FC**
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](#). **FC**



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

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

#72-032 anti-CD40 antibody (5C3), FITC.