

## anti-CD40 antibody, mouse monoclonal (5C3)

72-030 100 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. **CD40** has been found to mediate a broad variety of immune and inflammatory responses. Within the cell, the **CD40** molecule acts as a transmembrane signal transducer that leads to activation of intracellular kinases and transcription factors.

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

### Applications:

1. Flowcytometry (Ref 2)
2. Immunohistochemistry (acetone-fixed section; indirect immuno-staining)
3. Stimulation of B cell proliferation in the presence of IL4 (Ref 3)

**Isotype:** Mouse IgG1κ

**Immunogen:** Recombinant extracellular domain of CD40

**Form:** 1mg/ml in PBS, 50% glycerol, filter-sterilized

**Specificity:** Human

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

**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:** #72-031 anti-CD40 antibody (5C3), Biotin. #72-031 anti-CD40 antibody (5C3), FITC.

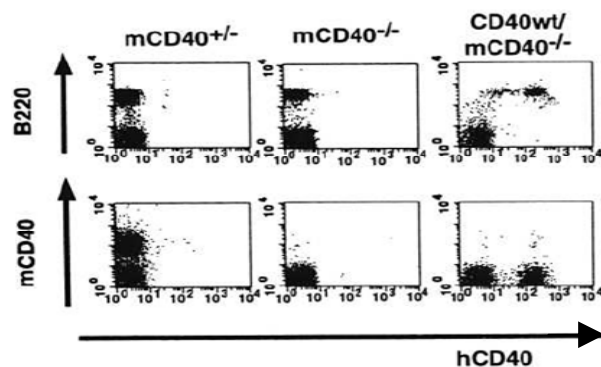


Fig.1 B cell-specific expression of h (human) CD40 in transgenic mice (ref.2).

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.