

## 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. Flow cytometry
2. Immunohistochemistry (acetone-fixed section; indirect immuno-staining)
3. Stimulation of B cell proliferation in the presence of IL4

**Isotype:** Mouse IgG1k

**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](https://www.uniprot.org/uniprot/P25942)

### References:

1. Inui S *et al* (1990) *Eur J Immunol* **20**: 1747-1753 PMID: [1698631](https://pubmed.ncbi.nlm.nih.gov/1698631/)
2. Yasui T *et al* (2002) *Int Immunol* **14**: 319-329 PMID: [11867568](https://pubmed.ncbi.nlm.nih.gov/11867568/)
3. Ishida I *et al* (2003) *Int Immunol*. **15**: 1027-1034 PMID: [12882840](https://pubmed.ncbi.nlm.nih.gov/12882840/)

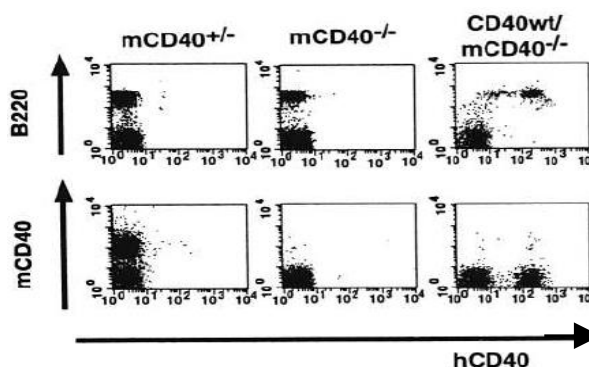


Fig.1 B cell-specific expression of h (human) CD40 in transgenic mice (ref.2). Splenocytes from m (mouse) CD40<sup>+/-</sup>, mCD40<sup>-/-</sup> and hCD40 wild type/mCD40<sup>-/-</sup> mice were stained with monoclonal antibodies against mCD40, B220 and hCD40 (5C3) and analyzed by flow cytometry. hCD40 molecules were expressed specifically on B220<sup>+</sup> B cells.