

MONOCLONAL ANTIBODY

For research use only. Not for clinical diagnosis.

Catalog No. BAM-72-031-EX

Anti-CD40 antibody (5C3), Biotin conjugated

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.

Product type	Primary antibodies
Host	Mouse
Source	
Form	Liquid 0.75mg/ml in PBS, 50% glycerol, filter-sterilized
Volume	50 µg
Concentration	
Specificity	CD40
Antigen	CD40 Conjugate: [Biotin] / [IgG] = 7.1
Clone	5C3
Isotype	Mouse IgG1 kappa

Application notes Flowcytometry, IHC, Stimulation of B cell proliferation in the presence of IL4.

Recommended use

Recommended dilutions

Optimal dilutions/concentrations should be determined by the end user.

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

Cross reactivity Human

Storage -20°C

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

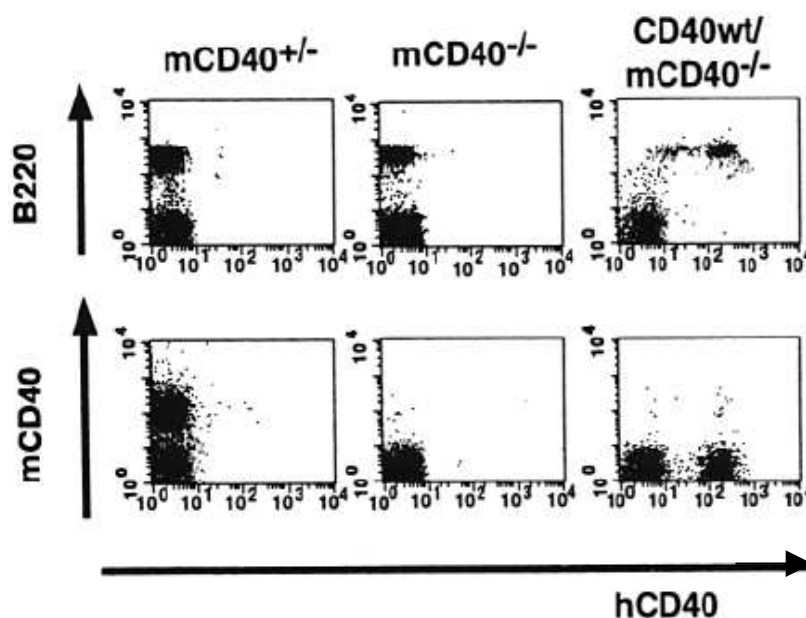


Fig.1 B cell-specific expression of h (human) CD40 in transgenic mice (ref.2).

Splenocytes from m (mouse) CD40^{+/+}, 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.

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