COSMO BIO CO., LTD.
Inspiration for Life Science

**MONOCLONAL ANTIBODY**

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**Catalog No. BAM-72-032-EX**

# Anti-CD40 antibody (5C3), FITC 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.

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| **Product type** | Primary antibodies |
| **Host** | Mouse |
| **Source** | |
| **Form** | Liquid<br>1.1 mg/ml in PBS, 50% glycerol, filter-sterilized |
| **Volume** | 50 μg |
| **Concentration** | |
| **Specificity** | CD40 |
| **Antigen** | CD40<br>Conjugate: [FITC] / [IgG] = 5.5 |
| **Clone** | 5C3 |
| **Isotype** | Mouse IgG1 kappa |

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| **Application notes** | Flowcytometry, IHC, Stimulation of B cell proliferation in the presence of IL4.<br>**Recommended use**<br><br>**Recommended dilutions**<br><br>Optimal dilutions/concentrations should be determined by the end user.<br>Data Link: Swiss-Prot P25942 |
| **Cross reactivity** | Human |
| **Storage** | -20°C |
| **References**<br>(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<br>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<br>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 |

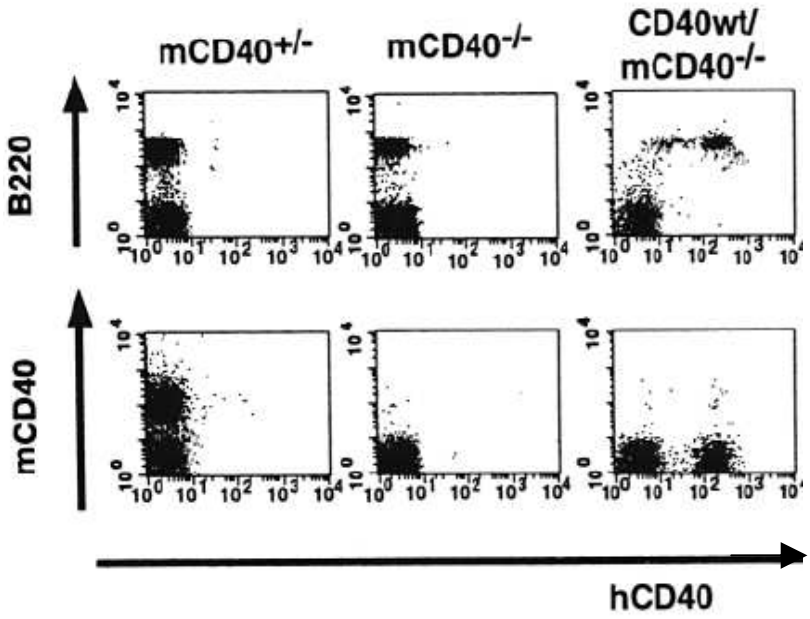


Fig.1 B cell-specific expression of h (human) CD40 in transgenic mice (ref.2).

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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Manufactured by BioAcademia,Inc.

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