Technical Data Sheet

# Alexa Fluor® 700 Mouse Anti-Human CD40

## Product Information

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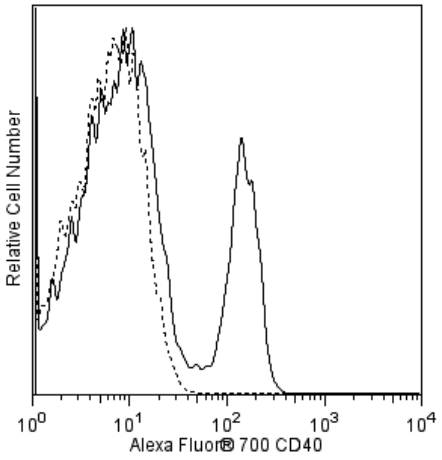
| **Material Number:** | **561208** |
| **Alternate Name:** | TNFRSF5; TNF receptor superfamily member 5; CD40L receptor; Bp50; p50 |
| **Size:** | 50 tests |
| **Vol. per Test:** | 5 µl |
| **Clone:** | 5C3 |
| **Isotype:** | Mouse IgG1, κ |
| **Reactivity:** | QC Testing: Human |
| **Workshop:** | V CD40.4 |
| **Storage Buffer:** | Aqueous buffered solution containing protein stabilizer and ≤0.09% sodium azide. |

## Description

This 5C3 monoclonal antibody specifically binds to CD40, a 45-48 kDa type I integral membrane glycoprotein. CD40 is expressed on B lymphocytes, but is not expressed on terminally differentiated B cells. CD40 is also expressed by endothelial cells, basal epithelial cells and some epithelial cell carcinomas, follicular dendritic cells, macrophages, fibroblasts, keratinocytes, and CD34+ hematopoietic progenitor cells. This antibody is useful for studying the roles played by CD40 in B-cell growth, proliferation, and differentiation including immunoglobulin isotype switching. Anti-CD40 antibodies have been reported to stimulate B-cell proliferation when costimulated with anti-µ, anti-CD20 antibodies or with phorbol esters. 5C3 is capable of inducing B-cell proliferation when presented with IL-4.




***Flow cytometric analysis of CD40 expression on human peripheral lymphocytes.*** *Whole blood was stained with Alexa Fluor® 700 Mouse Anti-Human CD40 antibody (Cat. No. 561208; solid line histogram) or with a Alexa Fluor® 700 Mouse IgG1, κ Isotype Control (Cat. No. 557882; dashed line histogram). The erythrocytes were lysed with BD PharmLyse™ Lysing Buffer (Cat. No. 555899). The fluorescence histograms were derived from events with the forward and side light-scatter characteristics of viable lymphocytes. Flow cytometry was performed using a BD™ LSR II Flow Cytometer System.*

## Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated to Alexa Fluor® 700 under optimum conditions, and unreacted Alexa Fluor® 700 was removed.

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

## Application Notes

**Application**

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| Flow cytometry | Routinely Tested |

## Suggested Companion Products

| Catalog Number | Name | Size | Clone |
|---|---|---|---|
| 557882 | Alexa Fluor® 700 Mouse IgG1, κ Isotype Control | 0.1 mg | MOPC-21 |
| 555899 | Lysing Buffer | 100 ml | (none) |
| 554656 | Stain Buffer (FBS) | 500 ml | (none) |

## Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 × 10^6 cells in a 100-µl experimental sample (a test).
2. An isotype control should be used at the same concentration as the antibody of interest.

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3. Alexa Fluor® 700 has an adsorption maximum of ~700nm and a peak fluorescence emission of ~720nm. Before staining cells with this reagent, please confirm that your flow cytometer is capable of exciting the fluorochrome and discriminating the resulting fluorescence.
4. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
5. The Alexa Fluor®, Pacific Blue™, and Cascade Blue® dye antibody conjugates in this product are sold under license from Molecular Probes, Inc. for research use only, excluding use in combination with microarrays, or as analyte specific reagents. The Alexa Fluor® dyes (except for Alexa Fluor® 430), Pacific Blue™ dye, and Cascade Blue® dye are covered by pending and issued patents.
6. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
7. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
8. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

## References


Morio T, Hanissian SH, Bacharier LB, et al. Ku in the cytoplasm associates with CD40 in human B cells and translocates into the nucleus following incubation with IL-4 and anti-CD40 mAb. *Immunity.* 1999; 11(3):339-348. (Biology)

Nguyen LT, Duncan GS, Mirtsos C, et al. TRAF2 deficiency results in hyperactivity of certain TNFR1 signals and impairment of CD40-mediated responses. *Immunity.* 1999; 11(3):379-389. (Biology)

Randall TD, Heath AW, Santos-Argumedo L, Howard MC, Weissman IL, Lund FE. Arrest of B lymphocyte terminal differentiation by CD40 signaling: mechanism for lack of antibody-secreting cells in germinal centers. *Immunity.* 1998; 8(6):733-742. (Biology)

Schlossman SF, Boumsell L, Gilks W, et al, ed. *Leukocyte Typing V: White Cell Differentiation Antigens.* New York: Oxford University Press; 1995. (Clone-specific)

Stamenkovic I, Clark EA, Seed B. A B-lymphocyte activation molecule related to the nerve growth factor receptor and induced by cytokines in carcinomas. *EMBO J.* 1989; 8(5):1403-1410. (Biology)



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