

## Technical Data Sheet

## APC-R700 Mouse Anti-Human CD40

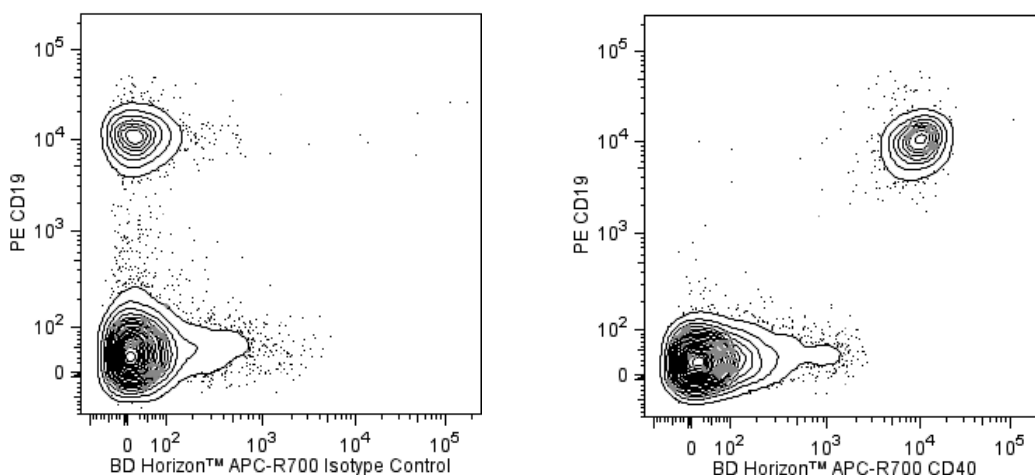
## Product Information

<b>Material Number:</b>	<b>565179</b>
<b>Alternate Name:</b>	TNFRSF5; TNF receptor superfamily member 5; CD40L receptor; Bp50; p50
<b>Size:</b>	100 Tests
<b>Vol. per Test:</b>	5 µl
<b>Clone:</b>	5C3
<b>Isotype:</b>	Mouse IgG1, κ
<b>Reactivity:</b>	QC Testing: Human Tested in Development: Rhesus, Cynomolgus, Baboon
<b>Workshop:</b>	V CD40.4
<b>Storage Buffer:</b>	Aqueous buffered solution containing BSA, protein stabilizer, glycerol 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.

This antibody was conjugated to BD Horizon APC-R700, which has been developed exclusively by BD Biosciences as a better alternative to Alexa Fluor® 700. APC-R700 excites and emits at similar wavelengths to Alexa Fluor® 700 yet exhibits significantly improved brightness. This dye can be excited by the red laser and detected with the same filter set as Alexa Fluor® (eg, 730/45-nm filter).



**Two-color flow cytometric analysis of CD40 expression on human peripheral blood lymphocytes.** Whole blood was stained with PE Mouse Anti-Human CD19 antibody (Cat. No. 555413/561741) and either BD Horizon™ APC-R700 Mouse IgG1, κ Isotype Control (Cat. No. 564974; Left Plot) or BD Horizon APC-R700 Mouse Anti-Human CD40 antibody (Cat. No. 565179; Right Plot). Erythrocytes were lysed with BD FACS™ Lysing Solution (Cat. No. 349202). Flow cytometric contour plots showing the correlated expression of CD40 (or Ig Isotype control staining) versus CD19 were derived from events with the forward and side light-scatter characteristics of intact lymphocytes. Flow cytometric analysis was performed using a BD LSRFortessa™ Cell Analyzer System.

## Preparation and Storage

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

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

The antibody was conjugated with BD Horizon APC-R700 under optimum conditions, and unconjugated antibody and free BD Horizon APC-R700 were removed.

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## Application Notes

### Application

Flow cytometry

Routinely Tested

### Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 mL	(none)
554657	Stain Buffer (BSA)	500 mL	(none)
564974	APC-R700 Mouse IgG1, $\kappa$ Isotype Control	0.1 mg	X40
349202	BD FACSTM Lysing Solution	100 mL	(none)
555899	Lysing Buffer	100 mL	(none)
555413	PE Mouse Anti-Human CD19	100 Tests	HIB19
561741	PE Mouse Anti-Human CD19	25 Tests	HIB19

### Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use  $1 \times 10^6$  cells in a 100- $\mu$ l experimental sample (a test).
2. Please refer to [www.bdbiosciences.com/pharmingen/protocols](http://www.bdbiosciences.com/pharmingen/protocols) for technical protocols.
3. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
4. 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.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at [www.bdbiosciences.com/colors](http://www.bdbiosciences.com/colors).
6. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
7. Species testing during development may have been performed with a different format of the same clone. Selected applications have been tested for cross-reactivity.
8. An isotype control should be used at the same concentration as the antibody of interest.

### References

Clark EA, Ledbetter JA. Activation of human B cells mediated through two distinct cell surface differentiation antigens, Bp35 and Bp50. *Proc Natl Acad Sci U S A*. 1986; 83(12):4494-4498. (Biology)

Galy AH, Spits H. CD40 is functionally expressed on human thymic epithelial cells. *J Immunol*. 1992; 149(3):775-782. (Biology)

Katira A, Holder M, Pound J, Gordon J. CD40 Workshop Panel report. In: Schlossman SF, Boumsell L, Gilks W, et al, ed. *Leukocyte Typing V: White Cell Differentiation Antigens*. Oxford: Oxford University Press; 1995:547-550. (Clone-specific: Blocking, Flow cytometry, Functional assay)

Lin G-X, Yang X, Hollemweguer E, et al. Cross-reactivity of CD antibodies in eight animal species. In: Mason D, Andre P, Benussan A, et al, ed. *Leucocyte Typing VII: White Cell Differentiation Antigens*. New York: Oxford University Press; 2002:519-523. (Clone-specific: Flow cytometry)

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Yoshino N, Ami Y, Terao K, Tashiro F, Honda M. Upgrading of flow cytometric analysis for absolute counts, cytokines and other antigenic molecules of cynomolgus monkeys (*Macaca fascicularis*) by using anti-human cross-reactive antibodies. *Exp Anim*. 2000; 49(2):97-110. (Clone-specific: Flow cytometry)

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