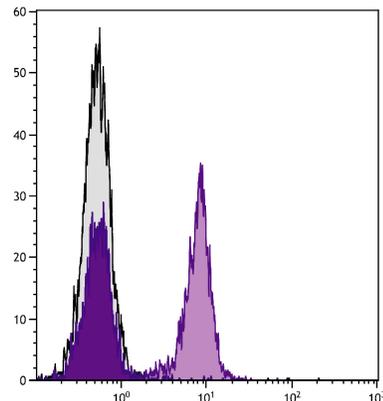




Rat Anti-Mouse CD40

Cat. No.	Format	Size
1645-01	Purified (UNLB)	0.5 mg
1645-02	Fluorescein (FITC)	0.5 mg
1645-08	Biotin (BIOT)	0.5 mg
1645-09	R-phycoerythrin (PE)	0.1 mg
1645-09L	R-phycoerythrin (PE)	0.2 mg
1645-11	Allophycocyanin (APC)	0.1 mg
1645-13	Spectral Red® (SPRD)	0.1 mg
1645-14	Low Endotoxin, Azide-Free (LE/AF)	0.5 mg



BALB/c mouse splenocytes were stained with Rat Anti-Mouse CD40-UNLB (SB Cat. No. 1645-01) followed by Mouse Anti-Rat IgG_{2a}-FITC (SB Cat. No. 3065-02).

Overview

Clone	1C10
Isotype	Rat (Lewis) IgG _{2aκ}
Immunogen	sCD40
Specificity	Mouse CD40; Mr 45-50 kDa
Alternate Name(s)	TNFRSF5, Bp50

Description

CD40 is a type I cell surface protein belonging to the tumor necrosis factor superfamily of cell surface receptors. In mice it is expressed on B lineage cells, follicular dendritic cells, thymic epithelium, and interdigitating cells in the T-cell zone of secondary lymphoid organs. CD40 first becomes detectable on a subset of small pre-B II cells in bone marrow with the levels of CD40 expression increasing thereafter during B cell maturation. Immature B cells (IgM⁺IgD^{lo}B220^o) express intermediate levels of CD40, whereas mature B cells (IgM⁺IgD^{hi}B220^{hi}) express high levels. CD40 has a central role in B cell growth and differentiation, and signaling through CD40 in combination with IL-4 reportedly induces immunoglobulin isotype switching and secretion of IgE. The agonistic 1C10 antibody closely resembles gp39/CD40 ligand in its ability to stimulate proliferation of small, resting B lymphocytes in the absence of other cofactors.

Applications

FC – Quality tested ^{1,7-12}
 IP – Reported in literature ¹
 Activ – Reported in literature ¹⁻⁴
 Block – Reported in literature ^{5,6}

Working Dilutions

Flow Cytometry	FITC and BIOT conjugates	≤ 2 μg/10 ⁶ cells
	PE, APC, and SPRD conjugates	≤ 0.5 μg/10 ⁶ cells
For flow cytometry, the suggested use of these reagents is in a final volume of 100 μL		

Other Applications Since applications vary, you should determine the optimum working dilution for the product that is appropriate for your specific need.

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Handling and Storage

- The purified (UNLB) antibody is supplied as 0.5 mg of purified immunoglobulin in 1.0 mL of borate buffered saline, pH 8.2. *No preservatives or amine-containing buffer salts added.* Store at 2-8°C.
- The fluorescein (FITC) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/NaN₃. Store at 2-8°C.
- The biotin (BIOT) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/NaN₃. Store at 2-8°C.
- The R-phycoerythrin (PE) conjugate is supplied as 0.1 mg in 1.0 mL or 0.2 mg in 2.0 mL of PBS/NaN₃ and a stabilizing agent. Store at 2-8°C. **Do not freeze!**
- The allophycocyanin (APC) conjugate is supplied as 0.1 mg in 1.0 mL of PBS/NaN₃ and a stabilizing agent. Store at 2-8°C. **Do not freeze!**
- The Spectral Red® (SPRD) conjugate is supplied as 0.1 mg in 1.0 mL of PBS/NaN₃ and a stabilizing agent. Store at 2-8°C. **Do not freeze!**
- The low endotoxin, azide-free (LE/AF) antibody is supplied as 0.5 mg purified immunoglobulin in 1.0 mL of PBS. Contains no preservative; handle under aseptic conditions. Store at 2-8°C or aliquot into smaller volumes and store at -20°C. Avoid multiple freeze / thaw cycles.
- Protect fluorochrome-conjugated forms from light. Reagents are stable for the period shown on the label if stored as directed.

Warning

Some reagents contain sodium azide. Please refer to product specific SDS.

References

1. Heath AW, Wu WW, Howard MC. Monoclonal antibodies to murine CD40 define two distinct functional epitopes. *Eur J Immunol.* 1994;24:1828-34. (Immunogen, FC, IP, Activ)
2. 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;8:733-42. (Activ)
3. Nojima T, Hayashi K, Goitsuka R, Nakayama K, Nakayama K, Kitamura D. Double knockout mice show BASH and PKC δ have different epistatic relationships in B cell maturation and CD40-mediated activation. *Immunol Lett.* 2006;105:48-54. (Activ)
4. Rolph MS, Kaufmann SH. CD40 signaling converts a minimally immunogenic antigen into a potent vaccine against the intracellular pathogen *Listeria monocytogenes*. *J Immunol.* 2001;166:5115-21. (Activ)
5. Kluiver JL, Chen CZ. MicroRNAs regulate B-cell receptor signaling-induced apoptosis. *Genes Immun.* 2012;13:239-44. (Block)
6. Baker RL, Wagner DH Jr, Haskins K. CD40 on NOD CD4 T cells contributes to their activation and pathogenicity. *J Autoimmun.* 2008;31:385-92. (Block)
7. Brannan CA, Roberts MR. Resident microglia from adult mice are refractory to nitric oxide-inducing stimuli due to impaired NOS2 gene expression. *Glia.* 2004;48:120-31. (FC)
8. Zaru R, Mollahan P, Watts C. 3-phosphoinositide-dependent kinase 1 deficiency perturbs toll-like receptor signaling events and actin cytoskeleton dynamics in dendritic cells. *J Biol Chem.* 2007;283:929-39. (FC)
9. Brix S, Lund P, Kjaer TM, Straarup EM, Helligren LI, Frøkiær H. CD4⁺ T-cell activation is differentially modulated by bacteria-primed dendritic cells, but is generally down-regulated by n-3 polyunsaturated fatty acids. *Immunology.* 2010;129:338-50. (FC)
10. Teixeira L, Botelho AS, Mesquita SD, Correia A, Cerca F, Costa R, et al. Plasmacytoid and conventional dendritic cells are early producers of IL-12 in *Neospora caninum*-infected mice. *Immunol Cell Biol.* 2010;88:79-86. (FC)
11. Chen Y, Adams E, Regateiro FS, Vaux DJ, Betz AG, Andersen KG, et al. Activation rather than Foxp3 expression determines that TGF- β -induced regulatory T cells out-compete naïve T cells in dendritic cell clustering. *Eur J Immunol.* 2012;42:1436-48. (FC)
12. Jacobsen J, Haabeth OW, Tveita AA, Schjetne KW, Munthe LA, Bogen B. Naive idiotope-specific B and T cells collaborate efficiently in the absence of dendritic cells. *J Immunol.* 2014;192:4174-83. (FC)

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