



CELL LAB Rat Anti-Mouse CD40

Cat. No.	Form	Quantity
732136	Purified (UNLB) Antibody	0.5 mg
732137	Fluorescein (FITC) Conjugate	0.5 mg
732138	Phycoerythrin (PE) Conjugate	0.1 mg
732139	Allophycocyanin (APC) Conjugate	0.1 mg

For Laboratory Use Only

DESCRIPTION

Clone: 1C10
Isotype: Rat IgG2a κ
Specificity: Mouse CD40, Mr 45-50 kDa

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.¹⁻⁵ 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^{lo}) express intermediate levels of CD40, whereas mature B cells (IgM⁺IgD^{hi}B220^{hi}) express high levels.⁴ CD40 has a central role in B cell growth and differentiation, and signalling through CD40 in combination with IL-4 reportedly induces immunoglobulin isotype switching and secretion of IgE.⁶ 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.²

APPLICATIONS

- Flow cytometry²
- Immunoprecipitation²
- *In vitro* induction of proliferation of mature B lymphocytes²

CHARACTERIZATION

To ensure lot-to-lot consistency, each batch of product is tested to conform with characteristics of a standard reference reagent using flow cytometry.

WORKING DILUTIONS

Flow Cytometry:

FITC conjugate	$\leq 2 \mu\text{g}/10^6$ cells
PE conjugate	$\leq 0.5 \mu\text{g}/10^6$ cells
APC conjugate	$\leq 0.5 \mu\text{g}/10^6$ cells

Other Applications: Since applications vary, determine the optimum working dilution of the product that is appropriate for your specific needs.

HANDLING AND STORAGE

- The purified (UNLB) antibody is supplied as 0.5 mg of purified immunoglobulin in 1.0 mL of 100 mM borate buffered saline, pH 8.0. No preservatives or amine-containing buffer salts added.

- The fluorescein (FITC) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/NaN₃.
- The phycoerythrin (PE) conjugate is supplied as 0.1 mg in 1.0 mL of PBS/NaN₃ and a stabilizing agent.
- The allophycocyanin (APC) conjugate is supplied as 0.1 mg in 1.0 mL of PBS/NaN₃ and a stabilizing agent.
- Protect fluorochrome-conjugated forms from light. Do not freeze.
- Reagent is stable until the expiration date on the vial when stored at 2-8°C.

STATEMENT OF WARNINGS

1. Specimens, samples and all material coming in contact with them should be handled as if capable of transmitting infection and disposed of with proper precautions.
2. Never pipet by mouth and avoid contact of samples with skin and mucous membranes.
3. Do not use reagent beyond the expiration date on the vial label.
4. Minimize exposure of reagent to light during storage or incubation.
5. Avoid microbial contamination of reagent or erroneous results may occur.
6. Use Good Laboratory Practice (GLP) when handling this reagent.
7. Harmful if swallowed.
8. After contact with skin, wash immediately with plenty of water.
9. Contains sodium azide. Sodium azide under acidic conditions yields hydrazoic acid, an extremely toxic compound. Azide compounds should be flushed with running water while being discarded. These precautions are recommended to avoid deposits in metal piping in which explosive conditions can develop. If skin or eye contact occurs, immediately wash excessively with water.

TRADEMARKS

The Beckman Coulter logo is a trademark of Beckman Coulter, Inc.

For additional information or if damaged product is received, contact your local Beckman Coulter Representative.

REFERENCES

1. Santos-Argumedo L, Gordon J, Heath AW and Howard M. 1994. Antibodies to murine CD40 protect normal and malignant B cells from induced growth arrest. *Cell Immunol*, 156:272-285.
2. Heath AW, Wu WW and Howard MC. 1994. Monoclonal antibodies to murine CD40 define two distinct functional epitopes. *Eur J Immunol*, 24:1828-1834.
3. Hasbold J, Johnson-Leger C, Atkins CJ, Clark EA and Klaus GG. 1994. Properties of mouse CD40:cellular distribution of CD40 and B cell activation by monoclonal anti-mouse CD40 antibodies. *Eur J Immunol*, 24:1835-1842.
4. Grandien A, Bras A and Martinez C. 1996. Acquisition of CD40 expression during murine B-cell differentiation. *Scand J Immunol*, 43:47-55.
5. Noelle RJ, Ledbetter JA and Aruffo A. 1992. CD40 and its ligand, an essential ligand-receptor pair for thymus-dependent B-cell activation. *Immunol Today*, 13:431-433.
6. Clark EA and Ledbetter JA. 1994. How B and T cells talk to each other. *Nature*, 367:425-428.



Manufactured for:
 Beckman Coulter, Inc.
 4300 N. Harbor Blvd.
 Fullerton, CA 92835
www.beckmancoulter.com

Printed in USA
 Made in USA

© 2005 Beckman Coulter, Inc.
 All Rights Reserved.

PN 733934-A