CELL LAB Rat Anti-Mouse CD38

Cat. No.	Form	Quantity
732130	Purified (UNLB) Antibody	0.5 mg
732131	Fluorescein (FITC) Conjugate	0.5 mg
732132	Biotin (BIOT) Conjugate	0.5 mg
732133	Phycoerythrin (PE) Conjugate	0.1 mg
733300	Phycoerythrin (PE) Conjugate	0.2 mg
732134	Allophycocyanin (APC) Conjugate	0.1 mg
733301	Spectral Red™ (SPRD) Conjugate	0.1 mg

For Laboratory Use Only

DESCRIPTION

Clone: 90
Isotype: Rat IgG2aκ
Specificity: CD38 (Mr 42-kDa), an immunoregulatory ectoenzyme

Murine CD38, a type II transmembrane glycoprotein, is a bifunctional ectoenzyme capable of catabolizing nicotinamide adenine dinucleotide (NAD+) to cyclic ADP-ribose (cADPR), and then hydrolyzing cADPR to adenosine diphosphoribose (ADPR).[1-3] It is expressed at high levels on the surface of peripheral B-lineage cells, and at low density on germinal center B cells from unimmunized mice.[4] It has also been reported to be expressed at moderate levels on NK cells, a proportion of peripheral T cells, and a subpopulation of thymocytes which are mostly TCR$\alpha\beta^+$, $CD4^-$, $CD8^-$.[5,6] Murine CD38 is also expressed by all Mac-1^+ macrophages in the peritoneal cavities of unimmunized mice, but not by unstimulated bone-marrow-derived macrophages.[4] Monoclonal antibodies to CD38 have been shown to induce B- and T-cell proliferation, protect B cells from apoptosis, and inhibit B lymphopoiesis.[2,5,7]

APPLICATIONS

- Flow cytometry
- Immunoprecipitation
- Immunohistochemistry (acetone-fixed, frozen tissue sections)
- Induction of B lymphocyte proliferation

CHARACTERIZATION

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

WORKING DILUTIONS

Flow Cytometry:	FITC conjugate	≤1 μg/10^6 cells
	BIOT conjugate	≤1 μg/10^6 cells
	PE conjugate	≤0.2 μg/10^6 cells
	APC conjugate	≤0.2 μg/10^6 cells
	SPRD conjugate	≤0.2 μg/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/NaN_3.
- The biotin (BIOT) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/NaN_3.
- The phycoerythrin (PE) conjugates are supplied as 0.1 mg in 1.0 mL or 0.2 mg in 2.0 mL PBS/NaN_3 and a stabilizing agent.
- The allophycocyanin (APC) conjugate is supplied as 0.1 mg in 1.0 mL of PBS/NaN_3 and a stabilizing agent.
- The Spectral Red (SPRD) conjugate is supplied as 0.1 mg in 1.0 mL of PBS/NaN_3 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

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

REFERENCES

1. Harada N, Santos-Argumedo L, Chang R, Grimaldi JC, Lund FE, Brannan CI, Copeland NG, Jenkins NA, Heath AW, and Parkhouse RM. 1993. Expression cloning of a cDNA encoding a novel murine B cell activation marker. Homology to human CD38. *J Immunol*, 151:3111-3118.
2. Santos-Argumedo L, Teixeira C, Preece G, Kirkham PA and Parkhouse RM. 1993. A B lymphocyte surface molecule mediating activation and protection from apoptosis via calcium channels. *J Immunol*, 151:3119-3130.
3. Howard M, Grimaldi JC, Bazan JF, Lund FE, Santos-Argumedo L, Parkhouse RM, Walseth TF and Lee HC. 1993. Formation and hydrolysis of cyclic ADP-ribose catalyzed by lymphocyte antigen CD38. *Science*, 262:1056-1059.
4. Lund F, Solvason N, Grimaldi JC, Parkhouse RM and Howard M. 1995. Murine CD38: an immunoregulatory ectoenzyme. *Immunol Today*, 16:469-473.
5. Kirkham PA, Santos-Argumedo L, Harnett MM and Parkhouse RM. 1994. Murine B-cell activation via CD38 and protein tyrosine phosphorylation. *Immunology*, 83:513-516.
6. Bean AG, Godfrey DI, Ferlin WG, Santos-Argumedo L, Parkhouse ME, Howard MC and Zlotnik A. 1995. CD38 expression on mouse T cells: CD38 defines functionally distinct subsets of alpha beta TCR+CD4-CD8- thymocytes. *Int Immunol*, 7:213-221.
7. Kumagai M, Coustan-Smith E, Murray DJ, Silvennoinen O, Murti KG, Evans WE, Malavasi F and Campana D. 1995. Ligation of CD38 suppresses human B lymphopoiesis. *J Exp Med*, 181:1101-1110.

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