CELL LAB Hamster Anti-Mouse CD28

Cat. No.	Form	Quantity
732107	Purified (UNLB) Antibody	0.5 mg
732108	Fluorescein (FITC) Conjugate	0.5 mg
732109	Phycoerythrin (PE) Conjugate	0.1 mg
733286	Phycoerythrin (PE) Conjugate	0.2 mg
733285	Biotin (BIOT) Conjugate	0.5 mg
733287	Allophycocyanin (APC) Conjugate	0.1 mg
733288	Spectral Red™ (SPRD) Conjugate	0.1 mg

For Laboratory Use Only

DESCRIPTION

Clone: PV-1
Isotype: Armenian Hamster IgG
Specificity: Murine CD28

CD28 is a type I disulfide-linked homodimer that is constitutively expressed on most thymocytes, at low density on nearly all $CD4^+$ and $CD8^+$ peripheral T lymphocytes, and at very low levels on NK cells. Its expression is upregulated upon T-cell activation.[1-4] CD28 is a ligand for CD80/B7-1 and CD86/B7-2 on B cells and other antigen presenting cells, and plays an important role in the interaction between T cells and B cells.[5] CD28 is a co-stimulatory receptor involved in many, but not all, T-cell independent immune responses.[6-9]

APPLICATIONS

- Flow cytometry[8,9]
- Immunoprecipitation[8]
- *In vitro* co-stimulation of T cells and NK cells[8,9]

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	≤3 μg/10^6 cells
	PE conjugate	≤0.3 μg/10^6 cells
	BIOT conjugate	≤3 μg/10^6 cells
	APC conjugate	≤0.3 μg/10^6 cells
	SPRD conjugate	≤0.3 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 phycoerythrin (PE) conjugates are supplied as 0.1 mg in 1.0 mL or 0.2 mg in 2.0 mL of PBS/NaN_3 and a stabilizing agent.
- The biotin (BIOT) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/NaN_3.
- 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. Gross JA, Callas E and Allison JP. 1992. Identification and distribution of the costimulatory receptor CD28 in the mouse. *J Immunol*, 149:380-388
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3. June CH, Ledbetter JA, Linsley PS and Thompson CB. 1990. Role of the CD28 receptor in T-cell activation. *Immunol Today*, 11:211-216.
4. Giese T, Allison JP and Davidson WF. 1993. Functionally anergic lpr and gld B220+ T cell receptor (TCR)-alpha/beta+ double-negative T cells express CD28 and respond to costimulation with phorbol myristate acetate and antibodies to CD28 and the TCR. *J Immunol*, 151: 597-609

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6. Harding FA, McArthur JG, Gross JA, Raulet DH and Allison JP. 1992. CD28-mediated signalling co-stimulates murine T cells and prevents induction of anergy in T-cell clones. *Nature*, 356:607-609.
7. Clements JL, Winslow G, Donahue C, Cooper SM, Allison JP and Budd RC. 1993. Co-stimulation via CD28 induces activation of a refractory subset of MRL-lpr/lpr T lymphocytes. *Int Immunol*, 5:1451-1460.
8. Abe R, Vandenberghe P, Craighead N, Smoot DS, Lee KP and June CH. 1995. Distinct signal transduction in mouse CD4+ and CD8+ splenic T cells after CD28 receptor ligation. *J Immunol*, 154:985-997.
9. Levine BL, Ueda Y, Craighead N, Huang ML and June CH. 1995. CD28 ligands CD80 (B7-1) and CD86 (B7-2) induce long-term autocrine growth of CD4+ T cells and induce similar patterns of cytokine secretion in vitro. *Int Immunol*, 7:891-904.

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