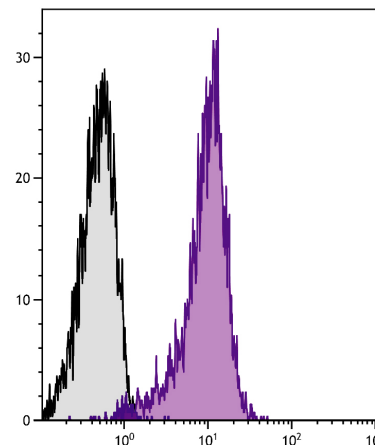




Hamster Anti-Mouse CD28

Cat. No.	Format	Size
1610-01	Purified (UNLB)	0.5 mg
1610-02	Fluorescein (FITC)	0.5 mg
1610-08	Biotin (BIOT)	0.5 mg
1610-13	Spectral Red® (SPRD)	0.1 mg
1610-14	Low Endotoxin, Azide-Free (LE/AF)	0.5 mg



BALB/c mouse thymocytes were stained with Hamster Anti-Mouse CD28-UNLB (SB Cat. No. 1610-01) followed by Goat Anti-Hamster IgG(H+L), Mouse/Rat ads-PE (SB Cat. No. 6061-09).

Overview

Clone	37.51
Isotype	Hamster (Syrian) IgG ₂
Immunogen	C57BL/6N mouse T cell lymphoma EL-4 cell line
Specificity	Mouse CD28; Mr 40 kDa
Alternate Name(s)	Tp44, T44

Description

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. 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. CD28 is a costimulatory receptor involved in many, but not all, T-cell independent immune responses.

Applications

FC – Quality tested ^{1,2}
 IP – Reported in literature ¹
 Costim – Reported in literature ^{1-3,7-9,11}
 Stim – Reported in literature ¹⁰
 Activ – Reported in literature ⁵
 Block – Reported in literature ⁶

Working Dilutions

Flow Cytometry	FITC and BIOT conjugates	≤ 3 µg/10 ⁶ cells
	SPRD conjugate	≤ 0.2 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.	

For Research Use Only. Not for Diagnostic or Therapeutic Use.

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 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. Gross JA, Callas E, Allison JP. Identification and distribution of the costimulatory receptor CD28 in mouse. *J Immunol.* 1992;149:380-8. (Immunogen, FC, IP, Costim)
2. Silverio JC, Pereira IR, Cipitelli M, Vinagre NF, Rodrigues MM, Gazzinelli RT, et al. CD8⁺ T-cells expressing interferon gamma or perforin play antagonistic roles in heart injury in experimental Trypanosoma cruzi-elicited cardiomyopathy. *PLoS Pathog.* 2012;8(4):e1002645. (Costim)
3. Lin J, Harding A, Giurisato E, Shaw AS. KSR1 modulates the sensitivity of mitogen-activated protein kinase pathway activation in T cells without altering fundamental system outputs. *Mol Cell Biol.* 2009;29:2082-91. (Costim)
4. Nandi D, Gross JA, Allison JP. CD28-mediated costimulation is necessary for optimal proliferation of murine NK cells. *J Immunol.* 1994;152:3361-9. (FC, Costim)
5. Cibotti R, Punt JA, Dash KS, Sharrow SO, Singer A. Surface molecules that drive T cell development in vitro in the absence of thymic epithelium and in the absence of lineage-specific signals. *Immunity.* 1997;6:245-55. (Activ)
6. Nishio M, Spielman J, Lee RK, Nelson DL, Podack ER. CD80 (B7.1) and CD54 (intracellular adhesion molecule-1) induce target cell susceptibility to promiscuous cytotoxic T cell lysis. *J Immunol.* 1996;157:4347-53. (Block)
7. Kim EH, Sullivan JA, Plisch EH, Tejera MM, Jatzek A, Choi KY, et al. Signal integration by Akt regulates CD8 T cell effector and memory differentiation. *J Immunol.* 2012;188:4305-14. (Costim)
8. Yoshida K, Sakamoto A, Yamashita K, Arguni E, Horigome S, Arima M, et al. Bcl6 controls granzyme B expression in effector CD8⁺ T cells. *Eur J Immunol.* 2006;36:3146-56. (Costim)
9. Belhacène N, Gamas P, Gonçalves D, Jacquin M, Beneteau M, Jacquelin A, et al. Severe thymic atrophy in a mouse model of skin inflammation accounts for impaired TNFR1 signaling. *PLoS One.* 2012;7(10):e47321. (Costim)
10. Zhang T, Fresnay S, Welty E, Sangrampurkar N, Rybak E, Zhou H, et al. Selective CD28 blockade attenuates acute and chronic rejection of murine cardiac allografts in a CTLA-4-dependent manner. *Am J Transplant.* 2011;11:1599-1609. (Stim)
11. Shen XZ, Okwan-Doudu D, Blackwell W, Ong FS, Janjulia T, Bernstein EA. Myeloid expression of angiotensin-converting enzyme facilitates myeloid maturation and inhibits the development of myeloid-derived suppressor cells. *Lab Invest.* 2014;94:536-44. (Costim)

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