

APC anti-mouse CD28 Antibody

Catalog# / Size	102109 / 25 µg 102110 / 100 µg
Clone	37.51
Regulatory Status	RUO
Other Names	Tp44, T44
Isotype	Syrian Hamster IgG
Description	CD28 is a 44 kD glycoprotein, also known as Tp44 or T44. It is a member of the Ig superfamily, expressed on thymocytes, most peripheral T cells, and NK cells. In association with CD80 (B7-1) and CD86 (B7-2), CD28 acts as the second signal for T and NK cell activation and proliferation. The 37.51 antibody has been reported to augment <i>in vitro</i> T cell proliferation and cytokine production, and promote CTL development.

Product Details

Verified Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Syrian Hamster
Immunogen	C57BL/6 mouse T-cell lymphoma EL-4
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography, and conjugated with APC under optimal conditions.
Concentration	0.2 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Application	FC - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis . For flow cytometric staining, the suggested use of this reagent is ≤1.0 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.
Excitation Laser	Red Laser (633 nm)
Application Notes	Additional reported applications (for the relevant formats) include: immunoprecipitation ¹ , <i>in vitro</i> costimulation of T and NK cells ¹ , <i>in vitro</i> blocking of allogeneic mixed leukocyte response and inhibition of MHC-unrestricted CTL cytotoxicity ^{3,4} , <i>in vitro</i> induction of thymocyte differentiation ^{2,5-9,11} , and immunohistochemical staining of acetone-fixed frozen sections. For <i>in vivo</i> studies or highly sensitive assays, we recommend Ultra-LEAF™ purified antibody (Endotoxin < 0.01 EU/µg, Azide-Free, 0.2 µm filtered) (Cat. No. 102116).

Application References

(PubMed link indicates BioLegend citation)

- Gross JA, *et al.* 1992. *J. Immunol.* 149:380. (IP, Costim)
- Cibotti R, *et al.* 1997. *Immunity* 6:245. (Costim)
- Masten BJ, *et al.* 1997. *Am. J. Respir. Cell Mol. Biol.* 16:335. (Block)
- Nishio M, *et al.* 1996. *J. Immunol.* 157:4347. (Block)
- Zhang N and He Y-W, 2005. *J. Exp. Med.* 202:395. (Costim)
- Terrazas LI, *et al.* 2005. *Intl. J. Parasitology.* 35:1349. (Costim)
- Perchonock CE, *et al.* 2006. *Mol Cell Biol.* 26(16):6005. (Costim)
- Wang W, *et al.* 2007. *J. Immunol.* 178:4885. (Costim)
- Pua HH, *et al.* 2007. *J. Exp. Med.* 204:25. (Costim)
- Perchonock CE, *et al.* 2007. *J. Immunol.* 179:1768.
- Barbi J, *et al.* 2007. *Blood* 110:2215.
- Milpied P, *et al.* 2011. *Blood* 118:2993. [PubMed](#)

13. Cunningham NR, *et al.* 2011. *Int Immunol.* 23:693. [PubMed](#)
14. Crispin JC, *et al.* 2012. *J. Immunol.* 188:3567. [PubMed](#)
15. Li CR, *et al.* 2014. *J Immunol.* 192:1425. [PubMed](#)
16. Blankenhaus B, *et al.* 2014. *PLoS Pathog.* 10:1003913. [PubMed](#)

Product Citations

1. Logan K Smith *et al.* 2018. *Immunity.* 48(2):299-312. [PubMed](#)
2. Fortier E, *et al.* 2011. *J Immunol.* 187:6291. [PubMed](#)
3. Shao B, *et al.* 2018. *Mol Med Rep.* 18:920. [PubMed](#)
4. Shissler SC, *et al.* 2020. *Sci Rep.* 10:8218. [PubMed](#)
5. Li J, *et al.* 2022. *Nat Commun.* 13:1481. [PubMed](#)

RRID

AB_312874 (BioLegend Cat. No. 102109)
AB_312875 (BioLegend Cat. No. 102110)

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Antigen Details

Structure	Ig superfamily, 44 kD
Distribution	Thymocytes, CD4 ⁺ , CD8 ⁺ peripheral T cells, NK cells
Function	Costimulates T and NK cells
Ligand/Receptor	CD80 (B7-1), CD86 (B7-2)
Cell Type	NK cells, T cells, Thymocytes, Tregs
Biology Area	Costimulatory Molecules, Immunology
Molecular Family	CD Molecules
Antigen References	<ol style="list-style-type: none">1. Barclay AN, <i>et al.</i> 1997. <i>The Leukocyte Antigen FactsBook</i> Academic Press.2. Lenschow DJ, <i>et al.</i> 1996. <i>Annu. Rev. Immunol.</i> 14:233.3. Gross JA, <i>et al.</i> 1992. <i>J. Immunol.</i> 149:380.
Gene ID	12487

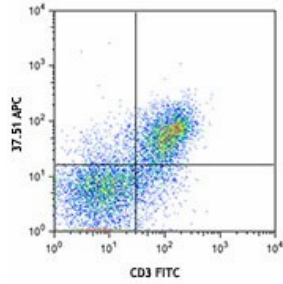
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

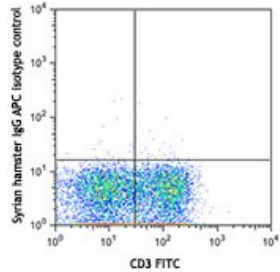
Other Formats

APC anti-mouse CD28, Biotin anti-mouse CD28, PE anti-mouse CD28, PE/Cyanine5 anti-mouse CD28, Purified anti-mouse CD28, PerCP/Cyanine5.5 anti-mouse CD28, Ultra-LEAF™ Purified anti-mouse CD28, Purified anti-mouse CD28 (Maxpar® Ready), PE/Cyanine7 anti-mouse CD28, PE/Dazzle™ 594 anti-mouse CD28, Brilliant Violet 421™ anti-mouse CD28, TotalSeq™-C0204 anti-mouse CD28, KIRAVIA Blue 520™ anti-mouse CD28

Product Data



C57BL/6 mouse splenocytes were stained with CD3 FITC and CD28 (clone 37.51) APC (top) or Syrian hamster IgG APC isotype control (bottom).



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BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587