

## APC anti-human CD28 Antibody

<b>Catalog# / Size</b>	302911 / 25 tests 302912 / 100 tests
<b>Clone</b>	CD28.2
<b>Regulatory Status</b>	RUO
<b>Workshop</b>	V-CD28.05
<b>Other Names</b>	T44, Tp44
<b>Isotype</b>	Mouse IgG1, κ
<b>Description</b>	CD28 is a 44 kD disulfide-linked homodimeric type I glycoprotein. It is a member of the immunoglobulin superfamily and is also known as T44 or Tp44. CD28 is expressed on most T lineage cells, NK cell subsets, and plasma cells. CD28 binds both CD80 and CD86 using a highly conserved motif MYPPY in the CDR3-like loop. CD28 is considered a major co-stimulatory molecule, inducing T lymphocyte activation and IL-2 synthesis, and preventing cell death. <i>In vitro</i> studies indicate that ligation of CD28 on T cells by CD80 and CD86 on antigen presenting cells provides a costimulatory signal required for T cell activation and proliferation.

### Product Details

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<b>Verified Reactivity</b>	Human, Cynomolgus, Rhesus
<b>Reported Reactivity</b>	Baboon, Capuchin Monkey, Chimpanzee, Pigtailed Macaque, Sooty Mangabey, Squirrel Monkey
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
<b>Preparation</b>	The antibody was purified by affinity chromatography, and conjugated with APC under optimal conditions.
<b>Concentration</b>	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our <a href="#">Concentration and Expiration Lookup</a> or <a href="#">Certificate of Analysis</a> online tools.)
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">FC - Quality tested</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by <a href="#">immunofluorescent staining with flow cytometric analysis</a> . For flow cytometric staining, the suggested use of this reagent is 5 µl per million cells in 100 µl staining volume or 5 µl per 100 µl of whole blood.
<b>Excitation Laser</b>	Red Laser (633 nm)
<b>Application Notes</b>	The Ultra-LEAF™ Purified antibody (Endotoxin < 0.01 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for highly sensitive assays.
<b>Application References</b>	<ol style="list-style-type: none"> <li>Schlossman S, <i>et al.</i> Eds. 1995. Leucocyte Typing V. Oxford University Press. New York.</li> <li>Nunes J, <i>et al.</i> 1993. <i>Biochem. J.</i> 293:835.</li> <li>Calea-Lauri J, <i>et al.</i> 1999. <i>J. Immunol.</i> 163:62.</li> <li>Tazi A, <i>et al.</i> 1999. <i>J. Immunol.</i> 163:3511. (IHC)</li> <li>Marti F, <i>et al.</i> 2001. <i>J. Immunol.</i> 166:197. (Costim)</li> <li>Jeong SH, <i>et al.</i> 2004. <i>J. Virol.</i> 78:6995. (Costim)</li> <li>Rivollier A, <i>et al.</i> 2004. <i>Blood</i> 104:4029. (Costim)</li> <li>Scharschmidt E, <i>et al.</i> 2004. <i>Mol. Cell Biol.</i> 24:3860. (Costim)</li> <li>Sheng W, <i>et al.</i> 2007. <i>Elsevier</i> 580:6819. <a href="#">PubMed</a></li> <li>Mitsuhashi M. 2007. <i>Clin Chem.</i> 53:148. <a href="#">PubMed</a></li> <li>Ye Z, <i>et al.</i> 2008. <i>Infect. Immun.</i> 76:2541. <a href="#">PubMed</a></li> <li>Magatti M, <i>et al.</i> 2008. <i>Stem Cells</i> 26:182. (FA) <a href="#">PubMed</a></li> </ol>
<b>(PubMed link indicates BioLegend citation)</b>	

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14. Berg M, et al. 2008. *J Leukoc Biol.* 83:853. (IP) [PubMed](#)
15. Rout N, et al. 2010. *PLoS One* 5:e9787. (FC)
16. Leonard JA, et al. 2011. *J. Virol.* 85:6867. [PubMed](#)
17. Nomura T, et al. 2012. *J. Virol.* 86:6481. [PubMed](#)

#### Product Citations

1. Ishii H, et al. 2016. *Sci Rep.* 6:30153. [PubMed](#)
2. Freeman ZT, et al. 2020. *J Clin Invest.* 130:1405. [PubMed](#)
3. Roskopf S, et al. 2016. *Sci Rep.* 6:31580. [PubMed](#)
4. Xu X, et al. 2020. *J Cell Biol.* 219:00:00. [PubMed](#)
5. Warmuth S, et al. 2022. *Oncoimmunology.* 10:2004661. [PubMed](#)
6. Steiner J, et al. 2011. *Brain Behav Immun.* 25:1233. [PubMed](#)
7. Liisborg C, et al. 2021. *Aging (Albany NY).* 13:25763. [PubMed](#)
8. Roskopf S, et al. 2018. *Oncotarget.* 9:17608. [PubMed](#)
9. Pierini S, et al. 2020. *JCI Insight.* 5:00. [PubMed](#)

#### RRID

AB\_314313 (BioLegend Cat. No. 302911)  
 AB\_314314 (BioLegend Cat. No. 302912)

## Antigen Details

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<b>Structure</b>	Ig superfamily, type I transmembrane glycoprotein, homodimer, 44 kD
<b>Distribution</b>	Mature T cells, thymocytes, NK cell subsets, plasma cells, EBV-positive B cells
<b>Function</b>	T cell costimulation
<b>Ligand/Receptor</b>	CD80, CD86
<b>Cell Type</b>	B cells, NK cells, Plasma cells, T cells, Thymocytes, Tregs
<b>Biology Area</b>	Costimulatory Molecules, Immunology
<b>Molecular Family</b>	CD Molecules
<b>Antigen References</b>	<ol style="list-style-type: none"> <li>1. Schlossman S, et al. Eds. 1995. <i>Leucocyte Typing V.</i> Oxford University Press. New York.</li> <li>2. June CH, et al. 1994. <i>Immunol. Today</i> 15:321.</li> <li>3. Linskey PS, et al. 1993. <i>Annu. Rev. Immunol.</i> 11:191.</li> </ol>
<b>Gene ID</b>	<a href="#">940</a>

## Related Protocols

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[Cell Surface Flow Cytometry Staining Protocol](#)

## Other Formats

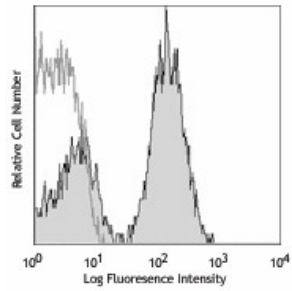
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APC anti-human CD28, Biotin anti-human CD28, FITC anti-human CD28, PE anti-human CD28, PE/Cyanine5 anti-human CD28, Purified anti-human CD28, Alexa Fluor® 488 anti-human CD28, Alexa Fluor® 700 anti-human CD28, PerCP/Cyanine5.5 anti-human CD28, Pacific Blue™ anti-human CD28, PE/Cyanine7 anti-human CD28, Ultra-LEAF™ Purified anti-human CD28, Brilliant Violet 421™ anti-human CD28, Brilliant Violet 510™ anti-human CD28, Purified anti-human CD28 (Maxpar® Ready), PE/Dazzle™ 594 anti-human CD28, Brilliant Violet 785™ anti-human CD28, Brilliant Violet 650™ anti-human CD28, Brilliant Violet 711™ anti-human CD28, APC/Fire™ 750 anti-human CD28, Alexa Fluor® 647 anti-human CD28, TotalSeq™-A0386 anti-human CD28, TotalSeq™-B0386 anti-human CD28, TotalSeq™-C0386 anti-human CD28, Brilliant Violet 605™ anti-human CD28, APC/Cyanine7 anti-human CD28, Brilliant Violet 750™ anti-human CD28, PE/Fire™ 810 anti-human CD28, GMP PE anti-human CD28, TotalSeq™-D0386 anti-human CD28, Spark Violet™ 423 anti-human CD28

## Product Data

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Human peripheral blood lymphocytes  
stained with APC CD28.2



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