

## PE/Cyanine7 anti-human CD28 Antibody

<b>Catalog# / Size</b>	302925 / 25 tests 302926 / 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 PE/Cyanine7 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>	Blue Laser (488 nm) Green Laser (532 nm)/Yellow-Green Laser (561 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>Additional Product Notes</b>	BioLegend is in the process of converting the name PE/Cy7 to PE/Cyanine7. The dye molecule remains the same, so you should expect the same quality and performance from our PE/Cyanine7 products. Please contact <a href="#">Technical Service</a> if you have any questions.
<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> </ol>
<b>(PubMed link indicates BioLegend citation)</b>	

8. Scharschmidt E, *et al.* 2004. *Mol. Cell Biol.* 24:3860. (Costim)
9. Sheng W, *et al.* 2007. *Elsevier* 580:6819. [PubMed](#)
10. Mitsuhashi M. 2007. *Clin Chem.*53:148. [PubMed](#)
11. Ye Z, *et al.* 2008. *Infect. Immun.* 76:2541. [PubMed](#)
12. Magatti M, *et al.* 2008. *Stem Cells* 26:182. (FA) [PubMed](#)
13. Yoshino N, *et al.* 2008. *Exp. Anim. (Tokyo)* 49:97. (FC)
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. Liu L, *et al.* 2016. *Nat Biotechnol.* 10.1038/nbt.3461. [PubMed](#)
2. Li M, *et al.* 2021. *J Clin Invest.* 131:. [PubMed](#)
3. Fujita T, *et al.* 2014. *J Immunol.* 193:5576. [PubMed](#)
4. Pachnio A, *et al.* 2016. *PLoS Pathog.* 12: 1005832. [PubMed](#)
5. Karlsson H, *et al.* 2015. *PLoS One.* 10: 0144787. [PubMed](#)
6. Teteloshvili N, *et al.* 2018. *Front Immunol.* 1.347222222. [PubMed](#)
7. Zuazo M, *et al.* 2019. *EMBO Mol Med.* 11(7). [PubMed](#)
8. Ramien C, *et al.* 2020. *Cell Reports.* 29(4):810-815. [PubMed](#)
9. Kerstein A, *et al.* 2016. *J Autoimmun.* S0896-8411(16)30186-X. [PubMed](#)
10. Edwards CJ, *et al.* 2021. *Br J Cancer.* . [PubMed](#)
11. Leitner J, *et al.* 2015. *J Immunol.* 195: 477 - 487. [PubMed](#)
12. Martins M, *et al.* 2015. *J Virol.* 89: 10802 - 10820. [PubMed](#)
13. Xue J, *et al.* 2013. *PLoS One.* 8:72295. [PubMed](#)
14. Aalam F, *et al.* 2020. *PLoS Pathog.* 16:e1008968. [PubMed](#)

#### RRID

AB\_10644004 (BioLegend Cat. No. 302925)  
 AB\_10644005 (BioLegend Cat. No. 302926)

## 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, <i>et al.</i> Eds. 1995. <i>Leucocyte Typing V.</i> Oxford University Press. New York.</li> <li>2. June CH, <i>et al.</i> 1994. <i>Immunol. Today</i> 15:321.</li> <li>3. Linskey PS, <i>et al.</i> 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](#)

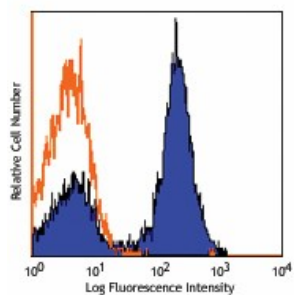
## Other Formats

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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 CD28.2 PE/Cyanine7

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