

## PE/Dazzle™ 594 anti-human CD28 Antibody

<b>Catalog# / Size</b>	302941 / 25 tests 302942 / 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

---

<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/Dazzle™ 594 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.  * PE/Dazzle™ 594 has a maximum excitation of 566 nm and a maximum emission of 610 nm.
<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>Application References</b>	1. Schlossman S, <i>et al.</i> Eds. 1995. Leucocyte Typing V. Oxford University Press. New York. 2. Nunes J, <i>et al.</i> 1993. <i>Biochem. J.</i> 293:835. 3. Calea-Lauri J, <i>et al.</i> 1999. <i>J. Immunol.</i> 163:62. 4. Tazi A, <i>et al.</i> 1999. <i>J. Immunol.</i> 163:3511. (IHC) 5. Marti F, <i>et al.</i> 2001. <i>J. Immunol.</i> 166:197. (Costim) 6. Jeong SH, <i>et al.</i> 2004. <i>J. Virol.</i> 78:6995. (Costim) 7. Rivollier A, <i>et al.</i> 2004. <i>Blood</i> 104:4029. (Costim) 8. Scharschmidt E, <i>et al.</i> 2004. <i>Mol. Cell Biol.</i> 24:3860. (Costim) 9. Sheng W, <i>et al.</i> 2007. <i>Elsevier</i> 580:6819. <a href="#">PubMed</a>
<b>(PubMed link indicates BioLegend citation)</b>	

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. Sagnella SM, et al. 2020. *Cancer Cell.* 37(3):354-370. [PubMed](#)
2. Weisberg SP, et al. 2020. *Cell Reports.* 29(12):3916-3932.e5. [PubMed](#)
3. Verma A, et al. 2021. *Cell Rep.* 37:109942. [PubMed](#)
4. Okoye AA, et al. 2022. *PLoS Pathog.* 18:e1010245. [PubMed](#)
5. Brudno JN, et al. 2020. *Nat Med.* 270:26. [PubMed](#)

#### RRID

AB\_2564234 (BioLegend Cat. No. 302941)  
 AB\_2564235 (BioLegend Cat. No. 302942)

## Antigen Details

---

<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

---

[Cell Surface Flow Cytometry Staining Protocol](#)

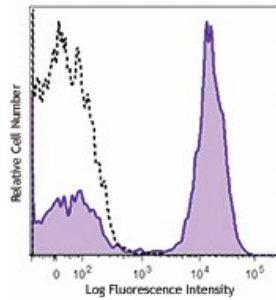
## Other Formats

---

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

---



Human peripheral blood lymphocytes were stained with CD28 (clone CD28.2) PE/Dazzle™ 594 (filled histogram) or mouse IgG1, κ PE/Dazzle™ 594 isotype control (open histogram).

For research use only. Not for diagnostic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

\*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, [www.biolegend.com/ordering#license](http://www.biolegend.com/ordering#license)). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.

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