

# Product Data Sheet

## PE anti-human CD28

**Catalog # / Size:** 302907 / 25 tests  
302908 / 100 tests

**Clone:** CD28.2

**Isotype:** Mouse IgG1,  $\kappa$

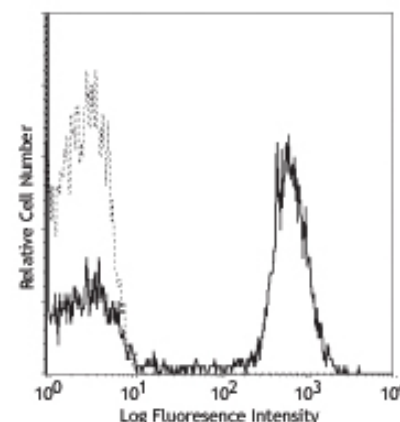
**Workshop Number:** V-CD28.05

**Reactivity:** Human, **Cross-Reactivity:** Chimpanzee, Baboon, Cynomolgus, Rhesus, Pigtailed Macaque, Squirrel Monkey, Capuchin Monkey, Sooty Mangabey

**Preparation:** The antibody was purified by affinity chromatography, and conjugated with PE under optimal conditions. The solution is free of unconjugated PE and unconjugated antibody.

**Formulation:** Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) BSA (origin USA).

**Storage:** The antibody solution should be stored undiluted at 4°C and protected from prolonged exposure to light. **Do not freeze.**



Human peripheral blood lymphocytes stained with CD28.2 PE

## Applications:

**Applications:** FC - Quality tested

**Recommended Usage:** Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. **Test size products are transitioning from 20  $\mu$ l to 5  $\mu$ l per test.** Please check your vial or your CoA to find the suggested use of this reagent per million cells in 100  $\mu$ l staining volume or per 100  $\mu$ l of whole blood. It is recommended that the reagent be titrated for optimal performance for each application. Read more at [www.biolegend.com/testsize](http://www.biolegend.com/testsize) regarding the test size change.

**Application Notes:** Additional reported applications (for the relevant formats) include: immunoprecipitation, immunohistochemical staining of acetone-fixed frozen tissue sections<sup>4</sup>, and *in vitro* T cell costimulation<sup>5-8</sup>. The CD28.2 antibody co-stimulates T cell proliferation and cytokine production in the presence of suboptimal amounts of anti-CD3 antibody. The LEAF™ purified antibody (Endotoxin <0.1 EU/ $\mu$ g, Azide-Free, 0.2  $\mu$ m filtered) is recommended for functional assays (Cat. No. 302914). For highly sensitive assays, we recommend Ultra-LEAF™ purified antibody (Cat. No. 302934) with a lower endotoxin limit than standard LEAF™ purified antibodies (Endotoxin <0.01 EU/ $\mu$ g).

**Application References:**

- Schlossman S, *et al.* Eds. 1995. Leucocyte Typing V. Oxford University Press. New York.
- Nunes J, *et al.* 1993. *Biochem. J.* 293:835.
- Calea-Lauri J, *et al.* 1999. *J. Immunol.* 163:62.
- Tazi A, *et al.* 1999. *J. Immunol.* 163:3511. (IHC)
- Marti F, *et al.* 2001. *J. Immunol.* 166:197. (Costim)
- Jeong SH, *et al.* 2004. *J. Virol.* 78:6995. (Costim)
- Rivollier A, *et al.* 2004. *Blood* 104:4029. (Costim)
- Scharschmidt E, *et al.* 2004. *Mol. Cell Biol.* 24:3860. (Costim)
- Sheng W, *et al.* 2007. *Elsevier* 580:6819. PubMed
- Mitsuhashi M. 2007. *Clin Chem.* 53:148. PubMed
- Ye Z, *et al.* 2008. *Infect. Immun.* 76:2541. PubMed
- Magatti M, *et al.* 2008. *Stem Cells* 26:182. (FA) PubMed
- Yoshino N, *et al.* 2000. *Exp. Anim. (Tokyo)* 49:97. (FC)
- Rout N, *et al.* 2010. *PLoS One* 5:e9787. (FC)
- Leonard JA, *et al.* 2011. *J. Virol.* 85:6867. PubMed

**Description:** 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. *In vitro* 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.

**Antigen References:**

- Schlossman S, *et al.* Eds. 1995. Leucocyte Typing V. Oxford University Press. New York.
- June CH, *et al.* 1994. *Immunol. Today* 15:321.
- Linskey PS, *et al.* 1993. *Annu. Rev. Immunol.* 11:191.

### Related Products:

Product  
PE anti-human CD80  
PE anti-human CD86  
PE Mouse IgG1,  $\kappa$  Isotype Ctrl

### Clone

2D10  
IT2.2  
MOPC-21

### Application

FC  
FC  
FC, ICFC



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Cell Staining Buffer  
RBC Lysis Buffer (10X)  
Human TruStain FcX™ (Fc Receptor Blocking Solution)

FC, ICC, ICFC  
FC, ICFC  
FC, ICC, ICFC



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