SONY

# Product Data Sheet

## Alexa Fluor® 700 anti-human CD28

**Catalog # / Size:** 2114595 / 25 µg
2114600 / 100 µg

**Clone:** CD28.2

**Isotype:** Mouse IgG1, κ

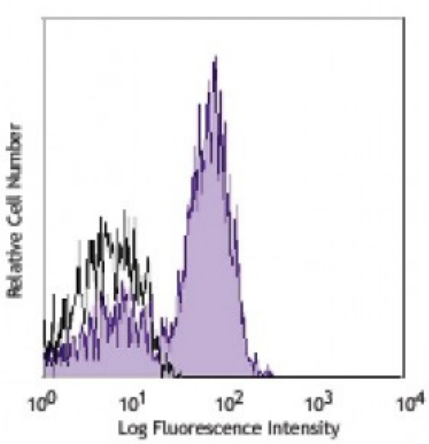
**Reactivity:** Human

**Preparation:** The antibody was purified by affinity chromatography, and conjugated with Alexa Fluor® 700 under optimal conditions.

**Formulation:** Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.

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

**Concentration:** 0.5




Human peripheral blood lymphocytes stained with CD28.2 Alexa Fluor® 700

## Applications:

**Applications:** Flow Cytometry

**Recommended Usage:** Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. The suggested use of this reagent is ≤2.0 microg per million cells in 100 microL volume. It is highly recommended that the reagent be titrated for optimal performance for each application.

* Alexa Fluor® 700 has a maximum emission of 719 nm when it is excited at 633 nm / 635 nm. Prior to using Alexa Fluor® 700 conjugate for flow cytometric analysis, please verify your flow cytometer's capability of exciting and detecting the fluorochrome.

**Application Notes:** Additional reported applications (for the relevant formats) include: immunoprecipitation, immunohistochemical staining of acetone-fixed frozen tissue sections4, and *in vitro* T cell costimulation[5-8]. This clone was tested in-house and does not work on formalin fixed paraffin-embedded (FFPE) tissue. 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/µg, Azide-Free, 0.2 µm 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/microg).

**Application References:**

1. Schlossman S, *et al.* Eds. 1995. Leucocyte Typing V. Oxford University Press. New York.
2. Nunes J, *et al.* 1993. *Biochem. J.* 293:835.
3. Calea-Lauri J, *et al.* 1999. *J. Immunol.* 163:62.
4. Tazi A, *et al.* 1999. *J. Immunol.* 163:3511. (IHC)
5. Marti F, *et al.* 2001. *J. Immunol.* 166:197. (Costim)
6. Jeong SH, *et al.* 2004. *J. Virol.* 78:6995. (Costim)
7. Rivollier A, *et al.* 2004. *Blood* 104:4029. (Costim)
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

**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:**

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