SONY

# Product Data Sheet

## Brilliant Violet 750™ anti-human CD28

**Catalog # / Size:** 2114845 / 25 tests
2114850 / 100 tests

**Clone:** CD28.2

**Isotype:** Mouse IgG1, κ

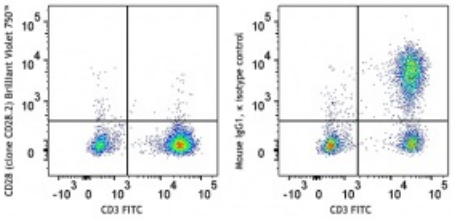
**Reactivity:** Human, Non-human primate, Other

**Preparation:** The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 750™ under optimal conditions.

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

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

**Concentration:** Lot-specific




Human peripheral blood lymphocytes were stained with CD3 FITC and CD28 (clone CD28.2) Brilliant Violet 750™ (left) or mouse IgG1, κ Brilliant Violet 750™ isotype control (right).

## Applications:

**Applications:** Flow Cytometry

**Recommended Usage:** Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. 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. It is recommended that the reagent be titrated for optimal performance for each application.

Brilliant Violet 750™ excites at 405 nm and emits at 750 nm. The bandpass filter 780/60 nm is recommended for detection, although filter optimization may be required depending on other fluorophores used. Be sure to verify that your cytometer configuration and software setup are appropriate for detecting this channel. Refer to your instrument manual or manufacturer for support. Brilliant Violet 750™ is a trademark of Sirigen Group Ltd.

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**Application Notes:** Additional reported applications (for the relevant formats) include: immunoprecipitation, immunohistochemical staining of acetone-fixed frozen tissue sections[4], 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.

**Application References:**


1. Schlossman S, *et al.* Eds. 1995. Leucocyte Typing V. Oxford University Press. New York.
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5. Marti F, *et al.* 2001. *J. Immunol.* 166:197. (Costim)
6. Jeong SH, *et al.* 2004. *J. Virol.* 78:6995. (Costim)
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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)
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**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.