

TECHNICAL DATA SHEET

# In Vivo Ready™ Anti-Human CD28 (CD28.2)

Catalog Number: 40-0289

## PRODUCT INFORMATION

**Contents:** In Vivo Ready™ Anti-Human CD28 (CD28.2)

**Isotype:** Mouse IgG1, kappa

**Concentration:** 2 mg/mL

**Clone:** CD28.2

**Reactivity:** Human

**Formulation:** 10 mM NaH<sub>2</sub>PO<sub>4</sub>, 150 mM NaCl, pH7.2

**Endotoxin Level:** Less than or equal to 0.01 EU/ug, as determined by the LaL assay

## DESCRIPTION

The CD28.2 antibody reacts with human CD28, a 44 kDa type I surface glycoprotein which acts as a co-stimulatory receptor in support of the T cell receptor (TCR). CD28 exists as a homodimer with specificity for two known ligands, known as B7-1 (CD80) and B7-2 (CD86), which are expressed on activated B cells and antigen-presenting cells. These ligands trigger CD28 signaling in concert with TCR activation to drive T cell proliferation, induce high-level expression of IL-2, impart resistance to apoptosis, and enhance T cell cytotoxicity. The interaction / co-stimulatory signaling between the B7 ligands and CD28 provides crucial communication between T cells and B cells or APCs to coordinate the adaptive immune response. Other members of the CD28 family of receptors include CTLA-4 (CD152), PD-1 (CD279), ICOS and BTLA. The CD28.2 antibody may be used as a phenotypic marker for human CD28, expressed on all CD4<sup>+</sup> T cells and CD8<sup>+</sup> T cells, and is widely used as a reagent for activation of the CD28 receptor in vitro and in vivo. This antibody is also reported to be cross-reactive with several non-human species, including Baboon, Chimpanzee, Cynomolgus, and Rhesus.

## PREPARATION & STORAGE

This monoclonal antibody preparation was purified from tissue culture supernatant via affinity chromatography. For In Vivo Ready™ (IVR) products, each preparation is also evaluated for endotoxin levels using the LAL assay. It is recommended to store the product undiluted at 4°C. Do not freeze.

## APPLICATION NOTES

This purified format is guaranteed to be >90% pure as determined by SDS-PAGE analysis. Citations are provided as a convenience to you - please consult Materials and Methods sections for additional details about the use of any product in these publications.

## REFERENCES

Griffin GK, Newton G, Tarrion ML, Bu D-X, Maganto-Garcia E, Azcutia V, Alcalde P, Grabie N, Luscinikas FW, Croce KJ, and Lichtman AH. 2012. *J. Immunol.* 188: 6287-6299. (in vitro activation) Cocchi F, DeVico AL, Lu W, Popovic M, Latiinovic O, Sajadi MM, Redfield RR, Lafferty MK, Galli M, Garzino-Demo A, and Gallo RC. 2012. *Proc. Natl. Acad. Sci.* 109: 5411-5416. (in vitro activation) Okoye AA, Rohankhedkar M, Abana C, Pattenn A, Reyes M, Pexton C, Lum R, Sylwester A, Planer SL, Legasse A, Park BS, Piatak M, Lifson JD, Axthelm MK and Picker LJ. 2012. *J. Exp. Med.* 209: 641-651. (flow cytometry) Vanderford TH, Slichter C, Rogers KA, Lawson BO, Obaede R, Else J, Villinger F, Bosinger SE, and Silvestri G. 2012. *Blood.* 119: 5750-5757. (flow cytometry – Sooty Mangabey) Ansari AA, Reimann KA, Mayne AE, Takahashi Y, Stephenson ST, Wang R, Wang X, Li J, Price AA, Little DM, Zaidi M, Lyles R, and Villinger F. 2011. *J. Immunol.* 186: 1044-1059. (flow cytometry – Rhesus macaque) Soto PC, Stein LL, Hurtado-Ziola N, Hedrick SA, and Varki A. 2010. *J. Immunol.* 184: 4185-4195. (in vitro activation – Chimpanzee) Di Carlo E, D'Antuono T, Pompa P, Giuliani R, Rosini S, Stuppia L, Musiani P, and Sorrentino C. 2009. *Clin. Cancer Res.* 15: 2979-2987. (immunohistochemistry – frozen tissue) Berg M and Zavazava N. 2008. *J. Leukoc. Biol.* 83: 852-863. (immunoprecipitation) Fos C, Salles A, Lang V, Carrette F, Audebert S, Pastor S, Ghiotto M, Olive D, Bismuth G, and Nunes JA. 2008. *J. Immunol.* 181: 1969-1977. (Immunoprecipitation, flow cytometry)

NOTE: Please choose the appropriate format for each application. Citations are provided as a convenience to you; please consult Materials and Methods sections for additional details about the use of any product in these publications.

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