

# CD28 (CD28.2): sc-19655

## BACKGROUND

T cell proliferation and lymphokine production are triggered by occupation of the TCR by antigen, followed by a costimulatory signal that is delivered by a ligand expressed on antigen presenting cells. The B7-related cell surface proteins CD80 (B7-1) and CD86 (B7-2) are expressed on antigen presenting cells, bind the homologous T cell receptors CD28 and CTLA-4 (cytotoxic T lymphocyte-associated protein-4) and trigger costimulatory signals for optimal T cell activation. CTLA-4 shares 31% overall amino acid identity with CD28 and it has been proposed that CD28 and CTLA-4 are functionally redundant. SLAMF is a novel receptor on T cells that, when engaged, potentiates T cell expansion in a CD28-independent manner. B7, also designated BB1, is another ligand or counterreceptor for CD28 and CTLA-4 that is expressed on the antigen-presenting cell.

## CHROMOSOMAL LOCATION

Genetic locus: CD28 (human) mapping to 2q33.2.

## SOURCE

CD28 (CD28.2) is a mouse monoclonal antibody raised against human CD28 transfected murine T cell hybridoma.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD28 (CD28.2) is available conjugated to agarose (sc-19655 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-19655 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-19655 PE), fluorescein (sc-19655 FITC), Alexa Fluor® 488 (sc-19655 AF488), Alexa Fluor® 546 (sc-19655 AF546), Alexa Fluor® 594 (sc-19655 AF594) or Alexa Fluor® 647 (sc-19655 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-19655 AF680) or Alexa Fluor® 790 (sc-19655 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

CD28 (CD28.2) is recommended for detection of CD28 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for CD28 siRNA (h): sc-29983, CD28 shRNA Plasmid (h): sc-29983-SH and CD28 shRNA (h) Lentiviral Particles: sc-29983-V.

Molecular Weight of CD28 monomer: 44 kDa.

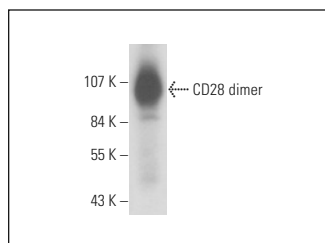
Molecular Weight of CD28 homodimer: 90 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

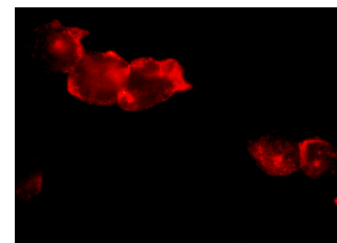
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



CD28 (CD28.2): sc-19655. Western blot analysis of CD28 expression in Jurkat whole cell lysate.



CD28 (CD28.2): sc-19655. Immunofluorescence staining of methanol-fixed Jurkat cells showing membrane staining.

## SELECT PRODUCT CITATIONS

1. Yu, T.C., et al. 2004. Shock waves increase T-cell proliferation or IL-2 expression by activating p38 MAP kinase. *Acta Biochim. Biophys. Sin.* 36: 741-748.
2. Lu, D., et al. 2017. A vitamin D receptor agonist converts CD4<sup>+</sup> T cells to Foxp3<sup>+</sup> regulatory T cells in patients with ulcerative colitis. *Oncotarget* 8: 53552-53562.
3. Sun, X., et al. 2019. Vasoactive intestinal peptide stabilizes intestinal immune homeostasis through maintaining interleukin-10 expression in regulatory B cells. *Theranostics* 9: 2800-2811.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.