

CD28 (M-20): sc-1624

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. SLAMF7 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.

REFERENCES

1. Freeman, G.J., et al. 1991. Structure, expression, and T cell costimulatory activity of the murine homologue of the human B lymphocyte activation antigen B7. *J. Exp. Med.* 174: 625-631.
2. Schwartz, R.H. 1992. Costimulation of T lymphocytes: the role of CD28, CTLA-4, and B7/BB1 in interleukin-2 production and immunotherapy. *Cell* 71: 1065-1068.
3. Peach, R.J., et al. 1995. Both extracellular immunoglobulin-like domains of CD80 contain residues critical for binding T cell surface receptors CTLA-4 and CD28. *J. Biol. Chem.* 270: 21181-21187.
4. Fargeas, C.A., et al. 1995. Identification of residues in the V domain of CD80 (B7-1) implicated in functional interactions with CD28 and CTLA4. *J. Exp. Med.* 182: 667-675.

CHROMOSOMAL LOCATION

Genetic locus: CD28 (human) mapping to 2q33.2; Cd28 (mouse) mapping to 1 C2.

SOURCE

CD28 (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of CD28 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1624 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

APPLICATIONS

CD28 (M-20) is recommended for detection of CD28 of mouse, rat and 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CD28 (M-20) is also recommended for detection of CD28 in additional species, including equine, canine, bovine and porcine.

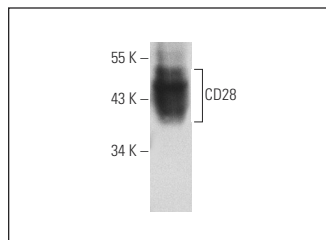
Suitable for use as control antibody for CD28 siRNA (h): sc-29983, CD28 siRNA (m): sc-29982, CD28 shRNA Plasmid (h): sc-29983-SH, CD28 shRNA Plasmid (m): sc-29982-SH, CD28 shRNA (h) Lentiviral Particles: sc-29983-V and CD28 shRNA (m) Lentiviral Particles: sc-29982-V.

Molecular Weight of CD28 monomer: 44 kDa.

Molecular Weight of CD28 homodimer: 90 kDa.

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

DATA



CD28 (M-20): sc-1624. Western blot analysis of CD28 expression in Jurkat whole cell lysate.



CD28 (M-20): sc-1624. Immunofluorescence staining of methanol-fixed Jurkat cells showing membrane staining.

SELECT PRODUCT CITATIONS

1. Sadra, A., et al. 1999. Identification of tyrosine phosphorylation sites in the CD28 cytoplasmic domain and their role in the costimulation of Jurkat T cells. *J. Immunol.* 162: 1966-1973.
2. Togayachi, A., et al. 2007. Polylactosamine on glycoproteins influences basal levels of lymphocyte and macrophage activation. *Proc. Natl. Acad. Sci. USA* 104: 15829-15834.
3. Alcázar, I., et al. 2009. p85β phosphoinositide 3-kinase regulates CD28 coreceptor function. *Blood* 113: 3198-3208.
4. Liu, K.K., et al. 2014. Ginsenoside compound K suppresses the abnormal activation of T lymphocytes in mice with collagen-induced arthritis. *Acta Pharmacol. Sin.* 35: 599-612.

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Try **CD28 (CD28.2): sc-19655** or **CD28 (2Q1293): sc-70611**, our highly recommended monoclonal alternatives to CD28 (M-20).