

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. 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.

REFERENCES

- 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.
- 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.
- 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.
- 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

CD28 (M-20) is recommended for detection of CD28 of mouse, rat and 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.

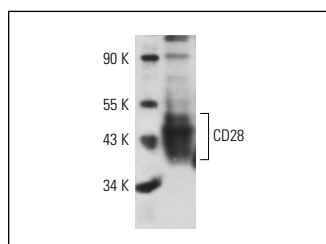
Suitable for use as control antibody for CD28 siRNA (h): sc-29983, CD28 siRNA (m): sc-29982, CD28 shRNA Plasmid (h): sc-29983-SH, CD28 shRNA Plasmid (m): sc-29982-SH, CD28 shRNA (h) Lentiviral Particles: sc-29983-V and CD28 shRNA (m) Lentiviral Particles: sc-29982-V.

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

- 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.
- Gray Parkin, K., et al. 2002. Expression of CD28 by bone marrow stromal cells and its involvement in B lymphopoiesis. *J. Immunol.* 169: 2292-2302.
- Sadra, A., et al. 2004. Translocation of CD28 to lipid rafts and costimulation of IL-2. *Proc. Natl. Acad. Sci. USA* 101: 11422-11427.
- Togayachi, A., et al. 2007. Poly-lactosamine on glycoproteins influences basal levels of lymphocyte and macrophage activation. *Proc. Natl. Acad. Sci. USA* 104: 15829-15834.

RESEARCH USE

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