

B7-1 (16-10A1): sc-18866

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 CTLA-4 (cytotoxic T lymphocyte-associated protein-4) and CD28 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

- Freeman, G.J., et al. 1991. Structure, expression, and T cell costimulatory activity of the murine homolog 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 IL-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 CTLA-4. *J. Exp. Med.* 182: 667-675.
- Gribben, J.G., et al. 1995. CTLA-4 mediates antigen-specific apoptosis of human T cells. *Proc. Natl. Acad. Sci. USA* 92: 811-815.
- Cocks, B.G., et al. 1995. A novel receptor involved in T cell activation. *Nature* 376: 260-263.
- Harlan, D.M., et al. 1995. Potential roles of the B7 and CD28 receptor families in autoimmunity and immune evasion. *Clin. Immunol. Immunopathol.* 75: 99-111.

CHROMOSOMAL LOCATION

Genetic locus: Cd80 (mouse) mapping to 16 B4.

SOURCE

B7-1 (16-10A1) is an Armenian hamster monoclonal raised against CHO cells transfected with B7-1 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. Also available azide-free for CHO cell line stably transfected with mouse B7 (Cd80) cDNA PMID: 1373896, sc-18866 L, 200 µg/0.1 ml.

B7-1 (16-10A1) is available conjugated to either phycoerythrin (sc-18866 PE) or fluorescein (sc-18866 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

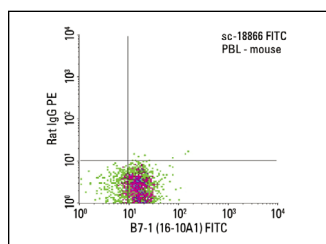
APPLICATIONS

B7-1 (16-10A1) is recommended for detection of B7-1 of mouse, rat and canine origin by flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for B7-1 siRNA (m): sc-37204, B7-1 shRNA Plasmid (m): sc-37204-SH and B7-1 shRNA (m) Lentiviral Particles: sc-37204-V.

Molecular Weight of B7-1: 60 kDa.

DATA



B7-1 (16-10A1) FITC: sc-18866 FITC. FCM analysis of mouse peripheral blood leukocytes. Quadrant markers were set based on the isotype control, normal rat IgG_{2a}-FITC: sc-2831.

SELECT PRODUCT CITATIONS

- Podajil, J.R., et al. 2006. CD4⁺ T cell expressed CD80 regulates central nervous system effector function and survival during experimental autoimmune encephalomyelitis. *J. Immunol.* 177: 2948-2958.
- Liu, J., et al. 2022. hUC-MSCs exosomal miR-451 alleviated acute lung injury by modulating macrophage M2 polarization via regulating MIF-PI3K-Akt signaling pathway. *Environ. Toxicol.* E-published.

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.

PROTOCOLS

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