

CTLA-4 (1B8): sc-18829

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

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- 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 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: *Ctla4* (mouse) mapping to 1 C2.

SOURCE

CTLA-4 (1B8) is an Armenian hamster monoclonal antibody raised against the extracellular portion of murine CTLA-4 fused to murine IgG_{2a}.

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 inhibiting the interaction of CTLA-4 positive cells with the B7 antigen on activated B cells, sc-18829 L, 200 µg/0.1 ml.

CTLA-4 (1B8) is available conjugated to either phycoerythrin (sc-18829 PE) or fluorescein (sc-18829 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

APPLICATIONS

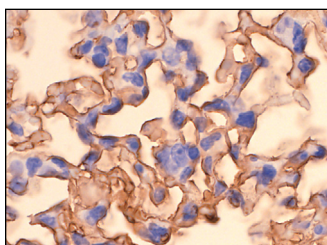
CTLA-4 (1B8) is recommended for detection of CTLA-4 of mouse origin by immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for CTLA-4 siRNA (m): sc-42767, CTLA-4 shRNA Plasmid (m): sc-42767-SH and CTLA-4 shRNA (m) Lentiviral Particles: sc-42767-V.

Molecular Weight of glycosylated CTLA-4: 41-43 kDa.

Molecular Weight of CTLA-4 cytosolic and membrane form: 34/30 kDa.

DATA



CTLA-4 (1B8): sc-18829. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse lymphoma tissue showing membrane localization.

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.



See **CTLA-4 (F-8): sc-376016** for CTLA-4 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.