SANTA CRUZ BIOTECHNOLOGY, INC.

B7-2 (OX48): sc-53500

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 B7-1 (CD80) and B7-2 (CD86) 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. SLAM 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. Paterson, D.J., et al. 1987. Antigens of activated rat T lymphocytes including a molecule of 50,000 M_r detected only on CD4 positive T blasts. Mol. Immunol. 24: 1281-1290.
2. 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.
3. 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.
4. Cocks, B.G., et al. 1995. A novel receptor involved in T cell activation. Nature 376: 260-263.
5. 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.
6. Gribben, J.G., et al. 1995. CTLA-4 mediates antigen-specific apoptosis of human T cells. Proc. Natl. Acad. Sci. USA 92: 811-815.
7. Harlan, D.M., et al. 1995. Potential roles of the B7 and CD28 receptor families in autoimmunity and immune evasion. Clin. Immunol. Immunopath. 75: 99-111.
8. Peach, R.J., et al. 1995. Both extracellular immunoglobin-like domains of CD80 contain residues critical for binding T cell surface receptors CTLA-4 and CD28. J. Biol. Chem. 270: 21181-21187.

CHROMOSOMAL LOCATION

Genetic locus: Cd86 (rat) mapping to 11q22.

SOURCE

B7-2 (OX48) is a mouse monoclonal antibody raised against a cell preparation expressing B7-2 of rat origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

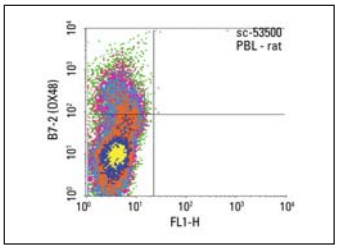
Available as phycoerythrin (sc-53500 PE) or fluorescein (sc-53500 FITC) conjugates for flow cytometry, 100 tests.

APPLICATIONS

B7-2 (OX48) is recommended for detection of B7-2 of rat origin by flow cytometry (1 µg per 1 x 10^6 cells).

Molecular Weight of B7-2: 70 kDa.

DATA



B7-2 (OX48): sc-53500. Indirect FCM analysis of rat peripheral blood leukocytes stained with B7-2 (OX48), followed by PE-conjugated goat anti-mouse IgG: sc-3738. Quadrant markers were set based on the isotype control, normal mouse IgG_1: sc-3877.

RESEARCH USE

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

PROTOCOLS

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