# B7-2 (B-T7): sc-58915



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**

- Freeman, G.J., Gray, G.S., Gimmi, C.D., Lombard, D.B., Zhou, L.J., White, M., Fingeroth, J.D., Gribben, J.G. and Nadler, L.M. 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., Bajorath, J., Naemura, J., Leytze, G., Greene, J., Aruffo, A. and Linsley, P.S. 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.
- Fargeas, C.A., Truneh, A., Reddy, M., Hurle, M., Sweet, R. and Sekaly, R.P. 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.
- 5. Gribben, J.G., Freeman, G.J., Boussiotis, V.A., Rennert, P., Jellis, C.L., Greenfield, E., Barber, M., Restivo, V.A., Jr., Ke, X., Gray, G.S. and Nadler, L.M. 1995. CTLA-4 mediates antigen-specific apoptosis of human T cells. Proc. Natl. Acad. Sci. USA 92: 811-815.
- Cocks, B.G., Chang, C.C., Carballido, J.M., Yssel, H., de Vries, J.E. and Aversa, G. 1995. A novel receptor involved in T cell activation. Nature 376: 260-263.
- 7. Harlan, D.M., Abe, R., Lee, K.P. and June, C.H. 1995. Potential roles of the B7 and CD28 receptor families in autoimmunity and immune evasion. Clin. Immunol. Immunopathol. 75: 99-111.

## **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 for detailed protocols and support products.

## **CHROMOSOMAL LOCATION**

Genetic locus: CD86 (human) mapping to 3q13.33.

## **SOURCE**

B7-2 (B-T7) is a mouse monoclonal antibody raised against B7-2 of human origin.

#### **PRODUCT**

Each vial contains 100  $\mu$ g IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and 1% stabilizer protein.

## **APPLICATIONS**

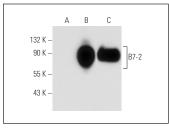
B7-2 (B-T7) is recommended for detection of B7-2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for B7-2 siRNA (h): sc-29774, B7-2 shRNA Plasmid (h): sc-29774-SH and B7-2 shRNA (h) Lentiviral Particles: sc-29774-V.

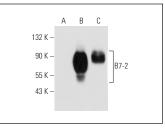
Molecular Weight of B7-2: 70 kDa.

Positive Controls: Raji whole cell lysate: sc-364236, B7-2 (h3): 293T Lysate: sc-175291 or NAMALWA cell lysate: sc-2234.

## **DATA**



B7-2 (B-T7): sc-58915. Western blot analysis of B7-2 expression in non-transfected 293T: sc-117752 (A), human B7-2 transfected 293T: sc-175291 (B) and Raji (C) whole cell lysates.



B7-2 (B-T7): sc-58915. Western blot analysis of B7-2 expression in non-transfected 293T: sc-117752 (**A**), human B7-2 transfected 293T: sc-175289 (**B**) and Raji (**C**) whole cell lysates.

#### **RESEARCH USE**

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



See **B7-2 (D-6): sc-28347** for B7-2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor<sup>®</sup> 488, 546, 594, 647, 680 and 790.

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3801 fax 831.457.3801 Europe +00800 4573 8000 49 6221 4503 0 www.scbt.com