



## B7-2 (B72-H2): sc-58916

### 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. 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., Gray, G.S., Gimmi, C.D., Lombard, D.B., Zhou, L.J., White, M., Fingerhuth, 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 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., 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.
- Gribben, J.G., Freeman, G.J., Bousiotis, 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.J., 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.
- 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. Immunopath.* 75: 99-111.

### CHROMOSOMAL LOCATION

Genetic locus: CD86 (human) mapping to 3q21; Cd86 (mouse) mapping to 16 B5.

### SOURCE

B7-2 (B72-H2) is a mouse monoclonal antibody raised against an extracellular domain of B7-2 of human origin.

### PRODUCT

Each vial contains 100 µg IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATIONS

B7-2 (B72-H2) is recommended for detection of B7-2 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10<sup>6</sup> cells); non cross-reactive with the extracellular domain of CD80.

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.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### 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](http://www.scbt.com) or our catalog for detailed protocols and support products.