B7-1 (h): 293T Lysate: sc-115617



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 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. 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.
- 3. 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.
- 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. CTLA4 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.
- 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: CD80 (human) mapping to 3q13.33.

PRODUCT

B7-1 (h): 293T Lysate represents a lysate of human B7-1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

B7-1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive B7-1 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

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