



ICOS (15F9): sc-53698

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. CD80 and CD86 bind to 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. ICOS (inducible co-stimulator) is related to CD28 and CTLA-4, and these three proteins are thought to compose a receptor family. ICOS stimulation enhances T cell responses and superinduces the synthesis of IL-10, but it does not induce IL-2 upregulation.

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 CTLA-4. *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. CTLA-4 mediates antigen-specific apoptosis of human T cells. *Proc. Natl. Acad. Sci. USA* 92: 811-815.
- Hutloff, A., Dittrich, A.M., Beier, K.C., Eljaschewitsch, B., Kraft, R., Anagnostopoulos, I. and Kroczeck, R.A. 1999. ICOS is an inducible T cell co-stimulator structurally and functionally related to CD28. *Nature* 397: 263-266.

CHROMOSOMAL LOCATION

Genetic locus: Icos (mouse) mapping to 1 C2.

SOURCE

ICOS (15F9) is a Syrian hamster monoclonal antibody raised against the ectodomain of ICOS of mouse origin.

PRODUCT

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

APPLICATIONS

ICOS (15F9) is recommended for detection of ICOS of mouse origin by immunofluorescence (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 ICOS siRNA (m): sc-42771, ICOS shRNA Plasmid (m): sc-42771-SH and ICOS shRNA (m) Lentiviral Particles: sc-42771-V.

Molecular Weight of ICOS monomer: 27 kDa.

Molecular Weight of ICOS homodimer: 55-60 kDa.

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.