SANTA CRUZ BIOTECHNOLOGY, INC.

Pdcd-1 (JJ077): sc-80283

BACKGROUND

Pdcd-1 (programmed cell death-1 protein), also designated CD279, is a type I transmembrane receptor and a member of the immunoglobin gene superfamily. Pdcd-1 contains an immunoreceptor tyrosine-based inhibitory motif (ITIM) within the cytoplasmic domain, which is conserved between the mouse and human homologs. Expression of Pdcd-1 is detected in mouse thymus, and it is induced in stimulated B and T cell lines, where it may play a role in the negative regulation of various immune responses. Receptors such as Pdcd-1 function by recruiting tyrosine phosphatases, including SHP-1 and SHIP, which are responsible for altering various B cell responses. Additionally, in activated lymphocytes, Pdcd-1 mediates the activation of the classical type of programmed cell death.

REFERENCES

1. Ishida, Y., et al. 1992. Induced expression of PD-1, a novel member of the immunoglobulin gene superfamily, upon programmed cell death. EMBO J. 11: 3887-3895.
2. Agata, Y., et al. 1996. Expression of the PD-1 antigen on the surface of stimulated mouse T and B lymphocytes. Int. Immunol. 8: 765-772.
3. Ono, M., et al. 1996. Role of the inositol phosphatase SHIP in negative regulation of the immune system by the receptor Fc γ RIIB. Nature 383: 263-266.
4. Vivier, E., et al. 1997. Immunoreceptor tyrosine-based inhibitory motifs. Immunol. Today 18: 286-291.
5. Nishimura, H., et al. 1999. Development of Lupus-like autoimmune diseases by disruption of the PD-1 gene encoding an ITIM motif-carrying immunoreceptor. Immunity 11: 141-151.
6. Okazaki, T., et al. 2002. New regulatory co-receptors: inducible co-stimulator and PD-1. Curr. Opin. Immunol. 14: 779-782.
7. Sheppard, K.A., et al. 2004. PD-1 inhibits T cell receptor induced phosphorylation of the ZAP70/CD3ζ signalosome and downstream signaling to PKC τ. FEBS Lett. 574: 37-41.

CHROMOSOMAL LOCATION

Genetic locus: PDCD1 (human) mapping to 2q37.3..

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

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.

SOURCE

Pdcd-1 (JJ077) is a mouse monoclonal antibody raised against the extracellular domain of Pdcd-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and protein stabilizer.

Available azide-free for neutralization, sc-80283 L, 100 µg/0.1 ml.

APPLICATIONS

Pdcd-1 (JJ077) is recommended for detection of Pdcd-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for Pdcd-1 siRNA (h): sc-44002, Pdcd-1 shRNA Plasmid (h): sc-44002-SH and Pdcd-1 shRNA (h) Lentiviral Particles: sc-44002-V.

Molecular Weight of Pdcd-1: 55 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048.