SANTA CRUZ BIOTECHNOLOGY, INC.

Pdcd-1 (RMP1-14): sc-73402



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

- 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.
- Vivier, E., et al. 1997. Immunoreceptor tyrosine-based inhibitory motifs. Immunol. Today 18: 286-291.
- 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.
- 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/CD3 ζ signalosome and downstream signaling to PKC θ . FEBS Lett. 574: 37-41.

CHROMOSOMAL LOCATION

Genetic locus: Pdcd1 (mouse) mapping to 1 D.

SOURCE

Pdcd-1 (RMP1-14) is a rat monoclonal antibody raised against Pdcd-1 transfected BHK cells of mouse origin.

PRODUCT

Each vial contains 200 $\mu g~lg G_{2a}$ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Pdcd-1 (RMP1-14) is recommended for detection of Pdcd-1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 μ g per 1 x 10⁶ cells).

Suitable for use as control antibody for Pdcd-1 siRNA (m): sc-72037, Pdcd-1 shRNA Plasmid (m): sc-72037-SH and Pdcd-1 shRNA (m) Lentiviral Particles: sc-72037-V.

Molecular Weight of Pdcd-1: 55 kDa.

SELECT PRODUCT CITATIONS

- 1. Roy, S., et al. 2019. Crosstalk of PD-1 signaling with SIRT1/F0X0-1 axis in progression of visceral leishmaniasis. J. Cell Sci. 132: jcs226274.
- Roy, S., et al. 2023. PD-1 negatively tunes macrophage immune activation by turning off JNK and STAT1 signaling: exploited by *Leishmania* for its intra-macrophage survival. Cell. Immunol. 391-392: 104758.

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.