

Pdcd-1 (RMP1-30): sc-56200

BACKGROUND

Pdcd-1 (programmed cell death-1 protein), also designated CD279, is a type I transmembrane receptor and a member of the immunoglobulin 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/CD3 ζ signalosome and downstream signaling to PKC τ . *FEBS Lett.* 574: 37-41.

CHROMOSOMAL LOCATION

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

SOURCE

Pdcd-1 (RMP1-30) is a rat monoclonal antibody raised against Pdcd-1 of mouse origin.

STORAGE

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

PROTOCOLS

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

PRODUCT

Each vial contains 200 μ g IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Pdcd-1 (RMP1-30) is available conjugated to agarose (sc-56200 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-56200 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-56200 PE), fluorescein (sc-56200 FITC), Alexa Fluor® 488 (sc-56200 AF488), Alexa Fluor® 546 (sc-56200 AF546), Alexa Fluor® 594 (sc-56200 AF594) or Alexa Fluor® 647 (sc-56200 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-56200 AF680) or Alexa Fluor® 790 (sc-56200 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

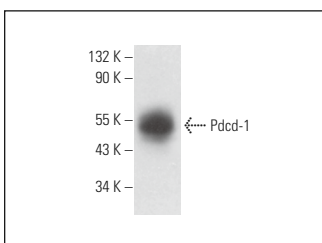
Pdcd-1 (RMP1-30) is recommended for detection of Pdcd-1 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and flow cytometry (1 μ g per 1 x 10⁶ cells).

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) Lenti-viral Particles: sc-72037-V.

Molecular Weight of Pdcd-1: 55 kDa.

Positive Controls: BYDP whole cell lysate: sc-364368.

DATA



Pdcd-1 (RMP1-30): sc-56200. Western blot analysis of Pdcd-1 expression in BYDP whole cell lysate.

SELECT PRODUCT CITATIONS

1. Christofides, A., et al. 2023. SHP-2 and PD-1-SHP-2 signaling regulate myeloid cell differentiation and antitumor responses. *Nat. Immunol.* 24: 55-68.

RESEARCH USE

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