SANTA CRUZ BIOTECHNOLOGY, INC.

SH-PTP1 (C-19): sc-287

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The steady state of protein tyrosyl phosphorylation in cells is regulated by the opposing action of tyrosine kinases and protein tyrosine phosphatases (PTPs). Several groups have independently identified a non-transmembrane PTP, designated SH-PTP1 (also known as PTP1C, HCP and SHP), which is primarily expressed in hematopoietic cells and characterized by the presence of two SH2 domains N-terminal to the PTP domain. SH2 domains generally mediate the association of regulatory molecules with specific phosphotyrosine-containing sites on autophosphorylated receptors, thereby controlling the initial interaction of receptors with these substrates. A second and much more widely expressed PTP with SH2 domains, SH-PTP2 (also designated PTP1D and Syp), has been identified. Strong sequence similarity between SH-PTP2 and the *Drosophila* gene corkscrew (CSW) and their similar patterns of expression suggest that SH-PTP2 is the human corkscrew homolog.

CHROMOSOMAL LOCATION

Genetic locus: PTPN6 (human) mapping to 12p13.31; Ptpn6 (mouse) mapping to 6 F2.

SOURCE

SH-PTP1 (C-19) is available as either rabbit (sc-287) or goat (sc-287-G) affinity purified polyclonal antibody raised against a peptide mapping at the C-terminus of SH-PTP1 of human origin.

PRODUCT

Each vial contains either 100 µg (sc-287) or 200 µg (sc-287-G) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-287 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as phycoerythrin conjugate for flow cytometry, sc-287 PE, 100 tests; as agarose conjugate for immunoprecipitation, sc-287 AC, 500 µg/0.25 ml agarose in 1 ml; and as HRP conjugate for Western blotting, sc-287 HRP, 200 µg/1 ml.

APPLICATIONS

SH-PTP1 (C-19) is recommended for detection of SH-PTP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SH-PTP1 (C-19) is also recommended for detection of SH-PTP1 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for SH-PTP1 siRNA (h): sc-29478, SH-PTP1 siRNA (m): sc-29479, SH-PTP1 shRNA Plasmid (h): sc-29478-SH, SH-PTP1 shRNA Plasmid (m): sc-29479-SH, SH-PTP1 shRNA (h) Lentiviral Particles: sc-29478-V and SH-PTP1 shRNA (m) Lentiviral Particles: sc-29479-V.

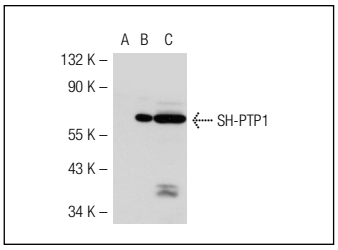
Molecular Weight of SH-PTP1: 68 kDa.

Positive Controls: SH-PTP1 (m): 293T Lysate: sc-123528.

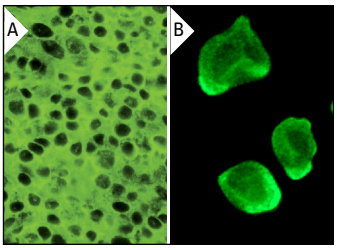
STORAGE

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

DATA



SH-PTP1 (C-19)-G: sc-287-G. Western blot analysis of SH-PTP1 expression in non-transfected 293T: sc-117752 (**A**), mouse SH-PTP1 transfected 293T: sc-123528 (**B**) and HL-60 (**C**) whole cell lysates.



SH-PTP1 (C-19): sc-287. Immunofluorescence staining of normal mouse intestine frozen section showing cytoplasmic staining (**A**). Immunofluorescence staining of methanol-fixed HL-60 cells showing cytoplasmic staining (**B**).

SELECT PRODUCT CITATIONS

1. Goldsmith, B.A. and Koizumi, S. 1997. Transient association of the phosphotyrosine phosphatase SHP-2 with TrkA is induced by nerve growth factor. J. Neurochem. 69: 1014-1019.
2. An, H., et al. 2008. Phosphatase SHP-1 promotes TLR- and RIG-I-activated production of type I interferon by inhibiting the kinase IRAK1. Nat. Immunol. 9: 542-550.
3. Strauss, G., et al. 2009. CD95 co-stimulation blocks activation of naive T cells by inhibiting T cell receptor signaling. J. Exp. Med. 206: 1379-1393.
4. Watt, H.L., et al. 2009. Somatostatin receptors 1 and 5 heterodimerize with epidermal growth factor receptor: agonist-dependent modulation of the downstream MAPK signalling pathway in breast cancer cells. Cell. Signal. 21: 428-439.
5. Kataoka, T.R., et al. 2010. CD72 negatively regulates KIT-mediated responses in human mast cells. J. Immunol. 184: 2468-2475.
6. Rosenkranz, K., et al. 2012. Proteomic analysis of alterations induced by perinatal hypoxic-ischemic brain injury. J. Proteome Res. 11: 5794-5803.
7. Ma, P., et al. 2012. A newly identified complex of spinophilin and the tyrosine phosphatase, SHP-1, modulates platelet activation by regulating G protein-dependent signaling. Blood 119: 1935-1945.

RESEARCH USE

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