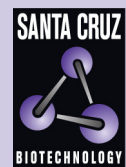


**SH-PTP1 (D-11): sc-7289**

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 (D-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 570-595 at the C-terminus of SH-PTP1 of human origin (differs from corresponding mouse sequence by a single amino acid).

**PRODUCT**

Each vial contains 200 µg IgG<sub>3</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7289 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as phycoerythrin (sc-7289 PE) conjugate for flow cytometry, 100 tests.

Available as agarose (sc-7289 AC) conjugate for immunoprecipitation, 500 µg/0.25 ml agarose in 1 ml.

**APPLICATIONS**

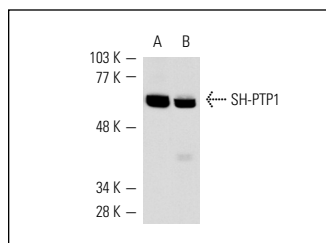
SH-PTP1 (D-11) is recommended for detection of SH-PTP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10<sup>6</sup> cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SH-PTP1 (D-11) is also recommended for detection of SH-PTP1 in additional species, including canine and porcine.

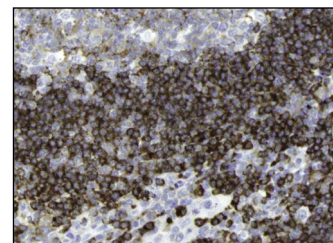
Suitable for use as control antibody for SH-PTP1 siRNA (h): sc-29478, SH-PTP1 siRNA (m): sc-29479, SH-PTP1 siRNA (r): sc-270044, SH-PTP1 shRNA Plasmid (h): sc-29478-SH, SH-PTP1 shRNA Plasmid (m): sc-29479-SH, SH-PTP1 shRNA Plasmid (r): sc-270044-SH, SH-PTP1 shRNA (h) Lentiviral Particles: sc-29478-V, SH-PTP1 shRNA (m) Lentiviral Particles: sc-29479-V and SH-PTP1 shRNA (r) Lentiviral Particles: sc-270044-V.

**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 (D-11): sc-7289. Western blot analysis of SH-PTP1 expression in HL-60 (A) and U-937 (B) whole cell lysates.



SH-PTP1 (D-11): sc-7289. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic staining of follicle and non-follicle cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

**SELECT PRODUCT CITATIONS**

- Oka, T., et al. 2001. Reduction of hematopoietic cell-specific tyrosine phosphatase SHP-1 gene expression in natural killer cell lymphoma and various types of lymphomas/leukemias: combination analysis with cDNA expression array and tissue microarray. *Am. J. Pathol.* 159: 1495-1505.
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- Wang, H., et al. 2004. ATR affecting cell radiosensitivity is dependent on homologous recombination repair but independent of nonhomologous end joining. *Cancer Res.* 64: 7139-7143.
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- Sarmiento, N., et al. 2008. Changes in the expression and dynamics of SHP-1 and SHP-2 during cerulein-induced acute pancreatitis in rats. *Biochim. Biophys. Acta* 1782: 271-279.
- Sandur, S.K., et al. 2010. 5-hydroxy-2-methyl-1,4-naphthoquinone, a vitamin K3 analogue, suppresses STAT3 activation pathway through induction of protein tyrosine phosphatase, SHP-1: potential role in chemosensitization. *Mol. Cancer Res.* 8: 107-118.

**RESEARCH USE**

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