

SH-PTP1 (PTY11): sc-56964

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.

REFERENCES

- Chernoff, J., et al. 1990. Cloning of a cDNA for a major human protein-tyrosine-phosphatase. Proc. Natl. Acad. Sci. USA 87: 2735-2739.
- Shen, S., et al. 1991. A protein-tyrosine phosphatase with sequence similarity to the SH2 domain of the protein-tyrosine kinases. Nature 352: 736-739.
- Plutzky, J., et al. 1992. Isolation of a Src homology 2-containing tyrosine phosphatase. Proc. Natl. Acad. Sci. USA 89: 1123-1127.
- Freeman, R.M., Jr., et al. 1992. Identification of a human Src homology 2-containing protein-tyrosine-phosphatase: a putative homolog of *Drosophila* corkscrew. Proc. Natl. Acad. Sci. USA 89: 11239-11243.
- Yi, T., et al. 1992. Protein tyrosine phosphatase containing SH2 domains: characterization, preferential expression in hematopoietic cells, and localization to human chromosome 12p12-p13. Mol. Cell. Biol. 12: 836-846.
- Matthews, R.J., et al. 1992. Characterization of hematopoietic intracellular protein tyrosine phosphatases: description of a phosphatase containing an SH2 domain and another enriched in proline-, glutamic acid-, serine-, and threonine-rich sequences. Mol. Cell. Biol. 12: 2396-2405.
- Feng, G., et al. 1993. SH2-containing phosphotyrosine phosphatase as a target of protein-tyrosine kinases. Science 259: 1607-1611.

CHROMOSOMAL LOCATION

Genetic locus: PTPN6 (human) mapping to 12p13.31.

SOURCE

SH-PTP1 (PTY11) is a mouse monoclonal antibody raised against full length SH-PTP1 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain 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

SH-PTP1 (PTY11) is recommended for detection of SH-PTP1 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

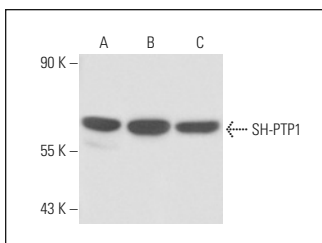
Molecular Weight of SH-PTP1: 68 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, HEL 92.1.7 cell lysate: sc-2270 or TF-1 cell lysate: sc-2412.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



SH-PTP1 (PTY11): sc-56964. Western blot analysis of SH-PTP1 expression in HL-60 (A), HEL 92.1.7 (B) and TF-1 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Strazza, M., et al. 2021. SHP2 targets ITK downstream of PD-1 to inhibit T cell function. Inflammation 44: 1529-1539.

RESEARCH USE

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



See **SH-PTP1 (D-11): sc-7289** for SH-PTP1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.