SANTA CRUZ BIOTECHNOLOGY, INC.

p-SH-PTP1 (14.Tyr 536): sc-135780

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.

REFERENCES

1. Chernoff, J., et al. 1990. Cloning of a cDNA for a major human protein tyrosine phosphatase. Proc. Natl. Acad. Sci. USA 87: 2735-2739.
2. Shen, S.H., et al. 1991. A protein tyrosine phosphatase with sequence similarity to the SH2 domain of the protein tyrosine kinases. Nature 352: 736-739.
3. Plutzky, J., et al. 1992. Isolation of a Src homology 2-containing tyrosine phosphatase. Proc. Natl. Acad. Sci. USA 89: 1123-1127.
4. 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.
5. 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.
6. 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.
7. Feng, G., et al. 1993. SH2-containing phosphotryosine phosphatase as a target of protein tyrosine kinases. Science 259: 1607-1611.

CHROMOSOMAL LOCATION

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

SOURCE

p-SH-PTP1 (14.Tyr 536) is a mouse monoclonal antibody raised against a short amino acid sequence containing Tyr 536 phosphorylated SH-PTP1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p-SH-PTP1 (14.Tyr 536) is recommended for detection of Tyr 536 phosphorylated 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)] 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 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.

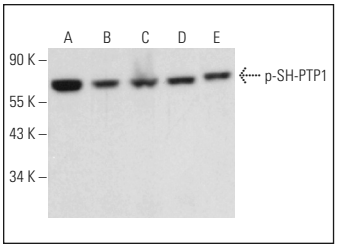
Molecular Weight of p-SH-PTP1: 68 kDa.

Positive Controls: THP-1 cell lysate: sc-2238, HEL 92.1.7 cell lysate: sc-2270 or HL-60 whole cell lysate: sc-2209.

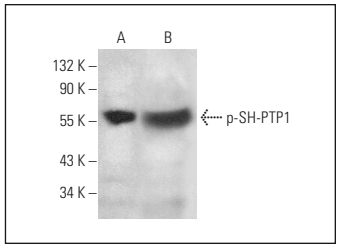
RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Lambda Phosphatase: sc-200312A and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



p-SH-PTP1 (14.Tyr 536): sc-135780. Western blot analysis of SH-PTP1 phosphorylation in THP-1 (**A**), HEL 92.1.7 (**B**), HL-60 (**C**), MEG-01 (**D**) and RAW 264.7 (**E**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



p-SH-PTP1 (14.Tyr 536): sc-135780. Western blot analysis of p-SH-PTP1 expression in K-562 (**A**) and HEL 92.1.7 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Zaffran, I., et al. 2022. Activation of CEACAM1 with an agonistic monoclonal antibody results in inhibition of melanoma cells. Cancer Gene Ther. 29: 1676-1685.

STORAGE

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

RESEARCH USE

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