SANTA CRUZ BIOTECHNOLOGY, INC.

p-SH-PTP2 (49.Tyr 542): sc-293147

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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., 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. 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.
5. 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.
6. 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.
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: PTPN11 (human) mapping to 12q24.13.

SOURCE

p-SH-PTP2 (49.Tyr 542) is a mouse monoclonal antibody raised against a short amino acid sequence containing Tyr 542 phosphorylated SH-PTP2 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.

p-SH-PTP2 (49.Tyr 542) is available conjugated to agarose (sc-293147 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; and to HRP (sc-293147 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

APPLICATIONS

p-SH-PTP2 (49.Tyr 542) is recommended for detection of Tyr 542 phosphorylated SH-PTP2 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SH-PTP2 siRNA (h): sc-36488, SH-PTP2 shRNA Plasmid (h): sc-36488-SH and SH-PTP2 shRNA (h) Lentiviral Particles: sc-36488-V.

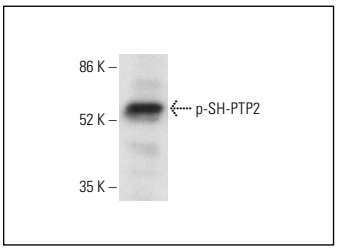
Molecular Weight of p-SH-PTP2: 70 kDa.

Positive Controls: HEK293T whole cell lysate: sc-45137.

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-PTP2 (49.Tyr 542): sc-293147. Western blot analysis of SH-PTP2 phosphorylation in HEK293T whole cell lysate. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

SELECT PRODUCT CITATIONS

1. Mohan, A., et al. 2006. Stem cell markers: ABCG2 and MCM2 expression in retinoblastoma. Br. J. Ophthalmol. 90: 889-893.
2. Wu, J., et al. 2022. Suchilactone inhibits the growth of acute myeloid leukaemia by inactivating SHP2. Pharm. Biol. 60: 144-153.

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.