

# SH-PTP2 (B-1): sc-7384

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: PTPN11 (human) mapping to 12q24.13; Ptpn11 (mouse) mapping to 5 F.

## SOURCE

SH-PTP2 (B-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 570-597 at the C-terminus of SH-PTP2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SH-PTP2 (B-1) is available conjugated to agarose (sc-7384 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-7384 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-7384 PE), fluorescein (sc-7384 FITC), Alexa Fluor® 488 (sc-7384 AF488), Alexa Fluor® 546 (sc-7384 AF546), Alexa Fluor® 594 (sc-7384 AF594) or Alexa Fluor® 647 (sc-7384 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-7384 AF680) or Alexa Fluor® 790 (sc-7384 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-7384 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## STORAGE

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

## APPLICATIONS

SH-PTP2 (B-1) is recommended for detection of SH-PTP2 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).

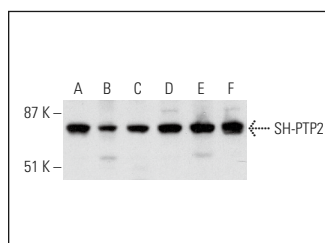
SH-PTP2 (B-1) is also recommended for detection of SH-PTP2 in additional species, including equine and avian.

Suitable for use as control antibody for SH-PTP2 siRNA (h): sc-36488, SH-PTP2 siRNA (m): sc-36489, SH-PTP2 siRNA (r): sc-270045, SH-PTP2 shRNA Plasmid (h): sc-36488-SH, SH-PTP2 shRNA Plasmid (m): sc-36489-SH, SH-PTP2 shRNA Plasmid (r): sc-270045-SH, SH-PTP2 shRNA (h) Lentiviral Particles: sc-36488-V, SH-PTP2 shRNA (m) Lentiviral Particles: sc-36489-V and SH-PTP2 shRNA (r) Lentiviral Particles: sc-270045-V.

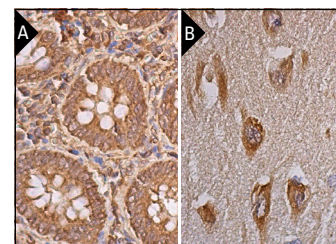
Molecular Weight of SH-PTP2: 70 kDa.

Positive Controls: C6 whole cell lysate: sc-364373, NIH/3T3 whole cell lysate: sc-2210 or U-937 cell lysate: sc-2239.

## DATA



SH-PTP2 (B-1) HRP: sc-7384 HRP. Direct western blot analysis of SH-PTP2 expression in C6 (A), NIH/3T3 (B), U-937 (C), C3H/10T1/2 (D), C4 (E) and A-10 (F) whole cell lysates.



SH-PTP2 (B-1): sc-7384. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic staining of glandular cells and lymphoid cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic staining of neuronal cells (B).

## SELECT PRODUCT CITATIONS

- Tanowitz, M., et al. 1999. Regulation of neuregulin-mediated acetylcholine receptor synthesis by protein tyrosine phosphatase SHP2. J. Neurosci. 19: 9426-9435.
- Buonato, J.M., et al. 2015. EGF augments TGFβ-induced epithelial-mesenchymal transition by promoting SHP2 binding to GAB1. J. Cell Sci. 128: 3898-3909.
- Xu, S., et al. 2016. PECAM1 regulates flow-mediated Gab1 tyrosine phosphorylation and signaling. Cell. Signal. 28: 117-124.

## RESEARCH USE

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