SANTA CRUZ BIOTECHNOLOGY, INC.

SH-PTP2 (E-20): sc-30688

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. 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.

CHROMOSOMAL LOCATION

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

SOURCE

SH-PTP2 (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SH-PTP2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-30688 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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 (E-20) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

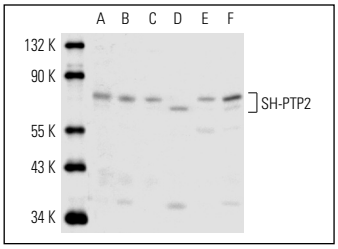
SH-PTP2 (E-20) is also recommended for detection of SH-PTP2 in additional species, including equine, canine, bovine, porcine and avian.

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

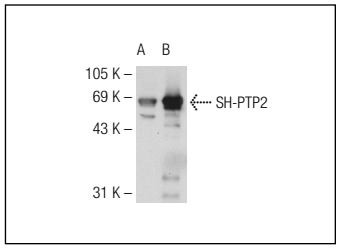
Molecular Weight of SH-PTP2: 70 kDa.

Positive Controls: SH-PTP2 (m2): 293T Lysate: sc-123530, Jurkat whole cell lysate: sc-2204 or U-87 MG cell lysate: sc-2411.

DATA



SH-PTP2 (E-20): sc-30688. Western blot analysis of SH-PTP2 expression in Jurkat (**A**), A-431 (**B**), NIH/3T3 (**C**), U-937 (**D**), THP-1 (**E**) and U-87 MG (**F**) whole cell lysates.



SH-PTP2 (E-20): sc-30688. Western blot analysis of SH-PTP2 expression in non-transfected: sc-117752 (**A**) and mouse SH-PTP2 transfected: sc-123530 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Nakamura, T., et al. 2007. Mediating ERK 1/2 signaling rescues congenital heart defects in a mouse model of Noonan syndrome. J. Clin. Invest. 117: 2123-2132.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.