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SH-PTP2 (6-213): sc-4017

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

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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.
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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.
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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.
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CHROMOSOMAL LOCATION

Genetic locus: PTPN11 (human) mapping to 12q24.1; Ptpn11 (mouse) mapping to 5 F.

SOURCE

SH-PTP2 (6-213) is expressed in *E. coli* as a 49 kDa tagged fusion protein corresponding to amino acids 6-213 of SH-PTP2 of human origin containing the amino terminal SH2-SH2 domain.

STORAGE

Store SH-PTP2 (6-213): sc-4017 at -20° C and SH-PTP2 (6-213) AC: sc-4017 AC at 4° C; stable for one year from the date of shipment.

PRODUCT

SH-PTP2 (6-213) is purified from bacterial lysates (>98%) by glutathione agarose chromatography and supplied as 50 µg purified protein in PBS containing 5 mM DTT and 50% glycerol.

Also available in agarose conjugate form: 100 µg purified SH-PTP2 (6-213) protein conjugated to 0.1 ml agarose in PBS containing 0.1% azide, 0.1% BSA and 10% glycerol: SH-PTP2 (6-213) AC: sc-4017 AC.

APPLICATIONS

SH-PTP2 (6-213) in its soluble, non-conjugated form is recommended for purification of target proteins containing appropriate phosphotyrosine binding sites when used in combination with glutathione agarose (sc-2009) and is suitable as a Western blotting control for sc-424.

Alternatively, the agarose conjugate form of this product (sc-4017 AC) can be used directly for target protein binding.

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.