

PTP1B (H-135): sc-14021



The Power to Question

BACKGROUND

The phosphorylation of proteins at tyrosine residues has long been recognized as an important regulatory component of signal transduction. This is a reversible process, involving both enzymes that phosphorylate proteins on tyrosine residues as well as a rapidly expanding family of protein tyrosine phosphatases. These latter enzymes bear little resemblance to either the protein serine and protein threonine phosphatases or to the acid and alkaline phosphatases. In most tissues, the major PTPase is a vanadate- and molybdate-sensitive protein. On the basis of sequence analysis, PTP1B (PTPase 1B) expressed in human placenta exhibits similarities both with the common leukocyte antigen (CD45) and with LAR, a homolog of the neural adhesion molecule (NCAM). PTP1B is synthesized as a 435 amino acid precursor protein which is cleaved to generate the active 321 amino acid enzyme.

CHROMOSOMAL LOCATION

Genetic locus: PTPN1 (human) mapping to 20q13.13; Ptpn1 (mouse) mapping to 2 H3.

SOURCE

PTP1B (H-135) is a rabbit polyclonal antibody raised against amino acids 301-435 mapping at the C-terminus of PTP1B (protein tyrosine phosphatase) 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.

APPLICATIONS

PTP1B (H-135) is recommended for detection of PTP1B of human and, to a lesser extent, mouse and rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PTP1B siRNA (h): sc-36328, PTP1B siRNA (m): sc-36329, PTP1B shRNA Plasmid (h): sc-36328-SH, PTP1B shRNA Plasmid (m): sc-36329-SH, PTP1B shRNA (h) Lentiviral Particles: sc-36328-V and PTP1B shRNA (m) Lentiviral Particles: sc-36329-V.

Molecular Weight of PTP1B: 50 kDa.

Positive Controls: PTP1B (h): 293 Lysate: sc-111053, HL-60 whole cell lysate: sc-2209 or CCRF-HSB-2 cell lysate: sc-2265.

RESEARCH USE

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

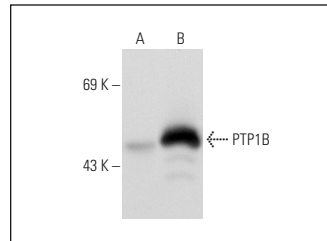
PROTOCOLS

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

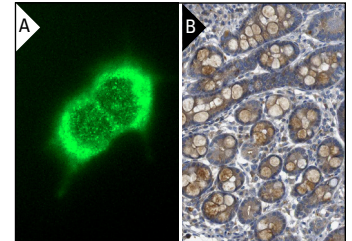
STORAGE

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

DATA



PTP1B (H-135): sc-14021. Western blot analysis of PTP1B expression in non-transfected: sc-110760 (A) and human PTP1B transfected: sc-111053 (B) 293 whole cell lysates.



PTP1B (H-135): sc-14021. Immunofluorescence staining of methanol-fixed JAR cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells at high magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

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- Sarmiento, N., et al. 2010. Rolipram and SP600125 suppress the early increase in PTP1B expression during cerulein-induced pancreatitis in rats. *Pancreas* 39: 639-645.
- Revuelta-Cervantes, J., et al. 2011. Protein tyrosine phosphatase 1B (PTP1B) deficiency accelerates hepatic regeneration in mice. *Am. J. Pathol.* 178: 1591-1604.
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- Mobasher, M.A., et al. 2013. Protein tyrosine phosphatase 1B modulates GSK3β/Nrf2 and IGF1R signaling pathways in acetaminophen-induced hepatotoxicity. *Cell Death Dis.* 4: e626.

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