SANTA CRUZ BIOTECHNOLOGY, INC.

PTPμ (H-80): sc-25433

BACKGROUND

Protein tyrosine phosphatases, or PTPs, are type I transmembrane proteins, membrane associated proteins or proteins localized in nuclei. Examples of transmembrane PTPs are LAR, PTPα, PTPβ, PTPγ, PTPδ, PTPε, PTPζ, PTPκ and PTPμ. Transmembrane PTPs play diverse roles during development and in adult tissues. Immunodepletion studies have suggested LAR to be a regulator of Insulin receptor phosphorylation. PTPα activity is increased twofold in response to phorbol ester stimulation, resulting in serine phosphorylation either directly or indirectly by members of the PKC family. Overexpression of v-H-ras and Neu, but not Myc or Int2, in mammary tumors has been shown to induce PTPε expression. An alternative splicing event leads to a nervous tissue-specific chondroitin sulfate proteoglycan called phosphacan, which represents the amino terminal portion of PTPζ. PTPκ and PTPμ share a conserved amino terminal 160 amino acid MAM domain which facilitates homophilic binding. PTPμ localizes to points of cell contact and may be involved in regulating the assembly and disassembly of cadherin/catenin complexes *in vivo*.

REFERENCES

1. Ahmad, F., et al. 1995. Increased abundance of the receptor-type protein-tyrosine phosphatase LAR accounts for the elevated Insulin receptor dephosphorylating activity in adipose tissue of obese human subjects. J. Clin. Invest. 95: 2806-2812.
2. den Hertog, J., et al. 1995. Stimulation of receptor protein-tyrosine phosphatase α activity and phosphorylation by phorbol ester. Cell Growth Differ. 6: 303-307.
3. Brady-Kalnay, S.M., et al. 1995. Receptor protein tyrosine phosphatase PTPμ associates with cadherins and catenins *in vivo*. J. Cell Biol. 130: 977-986.
4. Zondag, G.C., et al. 1995. Homophilic interactions mediated by receptor tyrosine phosphatases μ and κ. A critical role for the novel extracellular MAM domain. J. Biol. Chem. 270: 14247-14250.
5. Milev, P., et al. 1995. Complex-type asparagine-linked oligosaccharides on phosphacan and protein-tyrosine phosphatase-ζ/β mediate their binding to neural cell adhesion molecules and tenascin. J. Biol. Chem. 270: 24650-24653.

CHROMOSOMAL LOCATION

Genetic locus: PTPRM (human) mapping to 18p11.23; Ptprm (mouse) mapping to 17 E1.1.

SOURCE

PTPμ (H-80) is a rabbit polyclonal antibody raised against amino acids 791-870 mapping within an internal region of PTPμ 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

PTPμ (H-80) is recommended for detection of PTPμ 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).

PTPμ (H-80) is also recommended for detection of PTPμ in additional species, including equine, bovine and avian.

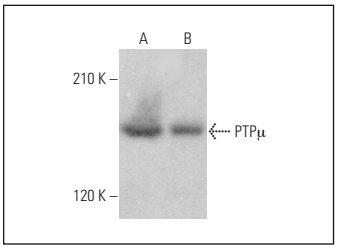
Suitable for use as control antibody for PTPμ siRNA (h): sc-44055, PTPμ siRNA (m): sc-45947, PTPμ shRNA Plasmid (h): sc-44055-SH, PTPμ shRNA Plasmid (m): sc-45947-SH, PTPμ shRNA (h) Lentiviral Particles: sc-44055-V and PTPμ shRNA (m) Lentiviral Particles: sc-45947-V.

Molecular Weight of PTPμ: 200 kDa.

Molecular Weight of PTPμ cleaved subunit: 100 kDa.

Positive Controls: A549 cell lysate: sc-2413, AMJ2-C8 whole cell lysate: sc-364366 or SK-N-SH cell lysate: sc-2410.

DATA



PTPμ (H-80): sc-25433. Western blot analysis of PTPμ expression in SK-N-SH (**A**) and AMJ2-C8 (**B**) whole cell lysates.

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.

PROTOCOLS

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