SANTA CRUZ BIOTECHNOLOGY, INC.

PTPμ (C-20): sc-1115

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 PTPm 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.

CHROMOSOMAL LOCATION

Genetic locus: PTPRM (human) mapping to 18p11.2; Ptprm (mouse) mapping to 17 E1.1.

SOURCE

PTPμ (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus 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.

Blocking peptide available for competition studies, sc-1115 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

PTPμ (C-20) 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), 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 (C-20) is also recommended for detection of PTPμ in additional species, including equine, canine, bovine, porcine 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 precursor: 200 kDa.

Molecular Weight of PTPμ subunits: 100 kDa

Positive Control: A549 whole cell lysate: sc-2413, T98G cell lysate: sc-2294 or SK-N-SH cell lysate: sc-2410

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Hiscox, S., et al. 1998. Association of PTPμυ with catenins in cancer cells: a possible role for E-cadherin. Int. J. Oncol. 13: 1077-1080.
2. Hiscox, S., et al. 1999. Association of the HGF/SF receptor, c-Met, with the cell-surface adhesion molecule, E-Cadherin, and Catenins in human tumor cells. Biochem. Biophys. Res. Commun. 261: 406-411.
3. Basso, K., et al. 2004. Gene expression profiling of hairy cell leukemia reveals a phenotype related to memory B cells with altered expression of chemokine and adhesion receptors. J. Exp. Med. 199: 59-68.

RESEARCH USE

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