SANTA CRUZ BIOTECHNOLOGY, INC.

PTPψ (N-20): sc-67805

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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, PTPμ and PTPψ. Transmembrane PTPs play diverse roles in a variety of cellular processes during development and in adult tissues. PTPψ, also known as PTPRU, FMI, PCP-2, PTP-J, PTPRO, PTP-PI, PTPPSI or GLEPP1, is a receptor-type PTP containing a transmembrane region, two intracellular tandem catalytic domains, and an extracellular region with Ig-like and Fibronectin type III-like repeats and a MAM (meprin-A5 antigen-PTPμ) domain. PTPψ localizes to adheren junctions and is capable of binding and dephosphorylating β-catenin thereby functioning as a negative regulator of β-catenin signaling. In addition, PTPψ may function as a tumor suppressor, as its expression is silenced in a variety of tumors via methylation of its promoter.

REFERENCES

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2. Avraham, S., et al. 1997. Characterization and chromosomal localization of PTPRO, a novel receptor protein tyrosine phosphatase, expressed in hematopoietic stem cells. Gene 204: 5-16.
3. Taniguchi, Y., et al. 1999. The receptor protein tyrosine phosphatase, PTPRO, is upregulated during megakaryocyte differentiation and is associated with the c-Kit receptor. Blood 94: 539-549.
4. McArdle, L., et al. 2001. Protein tyrosine phosphatase genes downregulated in melanoma. J. Invest. Dermatol. 117: 1255-1260.
5. Motiwala, T., et al. 2004. Protein tyrosine phosphatase receptor-type O (PTPRO) exhibits characteristics of a candidate tumor suppressor in human lung cancer. Proc. Natl. Acad. Sci. USA 101: 13844-13849.
6. Mori, Y., et al. 2004. Identification of genes uniquely involved in frequent microsatellite instability colon carcinogenesis by expression profiling combined with epigenetic scanning. Cancer Res. 64: 2434-2438.
7. Jacob, S.T., et al. 2005. Epigenetic regulation of protein tyrosine phosphatases: potential molecular targets for cancer therapy. Cancer Gene Ther. 12: 665-672.
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CHROMOSOMAL LOCATION

Genetic locus: PTPRU (human) mapping to 1p35.3; Ptpru (mouse) mapping to 4 D2.3.

SOURCE

PTPψ (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of PTPψ 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-67805 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PTPψ (N-20) is recommended for detection of PTPψ 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).

PTPψ (N-20) is also recommended for detection of PTPψ in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PTPψ siRNA (h): sc-62910, PTPψ siRNA (m): sc-62911, PTPψ shRNA Plasmid (h): sc-62910-SH, PTPψ shRNA Plasmid (m): sc-62911-SH, PTPψ shRNA (h) Lentiviral Particles: sc-62910-V and PTPψ shRNA (m) Lentiviral Particles: sc-62911-V.

Molecular Weight of full length PTPψ: 200 kDa.

Molecular Weight of PTPψ cleaved extracellular fragment: 100 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

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.

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.