SANTA CRUZ BIOTECHNOLOGY, INC.

PTPδ (C-20): sc-1118

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 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. Krueger, N.X., et al. 1990. Structural diversity and evolution of human receptor-like protein tyrosine phosphatases. EMBO J. 9: 3241-3252.
2. Fischer, E.H., et al. 1991. Protein tyrosine phosphatases: a diverse family of intracellular and transmembrane enzymes. Science 253: 401-406.

CHROMOSOMAL LOCATION

Genetic locus: PTPRD (human) mapping to 9p24.1, PTPRS (human) mapping to 19p13.3; Ptprf (mouse) mapping to 4 D2.1.

SOURCE

PTPδ (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PTPδ 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-1118 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.

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.

APPLICATIONS

PTPδ (C-20) is recommended for detection of PTPδ and PTPσ of human origin and, to a lesser extent, LAR of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PTPδ (C-20) is also recommended for detection of PTPδ and PTPσ in additional species, including equine, canine, bovine, porcine and avian.

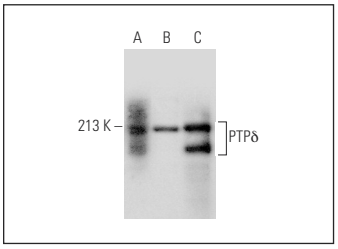
Molecular Weight of PTPδ: 215 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, C6 whole cell lysate: sc-364373 or KNRK whole cell lysate: sc-2214.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



PTPδ (C-20): sc-1118. Western blot analysis of PTPδ expression in C6 (**A**), NIH/3T3 (**B**) and KNRK (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wu, C.W., et al. 2006. Protein tyrosine-phosphatase expression profiling in gastric cancer tissues. Cancer Lett. 242: 95-103.
2. Li, X., et al. 2011. D9S168 microsatellite alteration predicts a poor prognosis in patients with clear cell renal cell carcinoma and correlates with the down-regulation of protein tyrosine phosphatase receptor δ. Cancer 117: 4201-4211.
3. Du, Y., et al. 2013. Polymorphism in protein tyrosine phosphatase receptor δ is associated with the risk of clear cell renal cell carcinoma. Gene 512: 64-69.