

PTP ρ (E-20): sc-66590

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, PTP α , PTP β , PTP γ , PTP δ , PTP ϵ , PTP ζ , PTP κ , PTP μ and PTP ρ . Transmembrane PTPs play diverse roles in a variety of cellular processes during development and in adult tissues. PTP ρ , also known as PTPRT, RPTPT or RPTP ρ , is a receptor-type PTP (RPTP) 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-PTP μ) domain. RPTPs participate in neurite extension, signal transduction and cell adhesion. PTP ρ is expressed at high levels in the central nervous system of both developing and adult tissues. It interacts with a variety of proteins that function at intercellular adhesion junctions and it specifically binds and dephosphorylates E-cadherin.

REFERENCES

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- Johnson, K.G., et al. 2001. Receptor protein tyrosine phosphatases regulate retinal ganglion cell axon outgrowth in the developing *Xenopus* visual system. *J. Neurobiol.* 49: 99-117.
- Besco, J., et al. 2004. Genomic structure and alternative splicing of murine R2B receptor protein tyrosine phosphatases (PTP κ , μ , ρ and PCP-2). *BMC Genomics* 5: 14.
- Yan, H.X., et al. 2006. Protein tyrosine phosphatase PCP-2 inhibits β -catenin signaling and increases E-cadherin-dependent cell adhesion. *J. Biol. Chem.* 281: 15423-15433.
- Besco, J.A., et al. 2006. Intracellular substrates of brain-enriched receptor protein tyrosine phosphatase ρ (RPTP ρ /PTPRT). *Brain Res.* 1116: 50-57.

CHROMOSOMAL LOCATION

Genetic locus: PTPRT (human) mapping to 20q12; Ptprt (mouse) mapping to 2 H2.

SOURCE

PTP ρ (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of PTP ρ of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-66590 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PTP ρ (E-20) is recommended for detection of PTP ρ 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).

PTP ρ (E-20) is also recommended for detection of PTP ρ in additional species, including equine, canine and bovine.

Suitable for use as control antibody for PTP ρ siRNA (h): sc-62908, PTP ρ siRNA (m): sc-62909, PTP ρ shRNA Plasmid (h): sc-62908-SH, PTP ρ shRNA Plasmid (m): sc-62909-SH, PTP ρ shRNA (h) Lentiviral Particles: sc-62908-V and PTP ρ shRNA (m) Lentiviral Particles: sc-62909-V.

Molecular Weight of PTP ρ : 164 kDa.

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.

PROTOCOLS

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