

PTP ζ (C-19): sc-1110

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 and PTP μ . Transmembrane PTPs play diverse roles during development and in adult tissues. Immunodepletion studies have suggested LAR to be a regulator of Insulin receptor phosphorylation. PTP α 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 PTP ϵ expression. An alternative splicing event leads to a nervous tissue-specific chondroitin sulfate proteoglycan called phosphacan, which represents the amino terminal portion of PTP ζ . PTP κ and PTP μ share a conserved amino terminal 160 amino acid MAM domain which facilitates homophilic binding. PTP μ localizes to points of cell contact and may be involved in regulating the assembly and disassembly of cadherin/catenin complexes *in vivo*.

CHROMOSOMAL LOCATION

Genetic locus: PTPRZ1 (human) mapping to 7q31.32; Ptpz1 (mouse) mapping to 6 A3.1.

SOURCE

PTP ζ (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PTP ζ 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-1110 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

PTP ζ (C-19) is recommended for detection of PTP ζ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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). PTP ζ (C-19) is also recommended for detection of PTP ζ in additional species, including equine, bovine and porcine. Suitable for use as control antibody for PTP ζ siRNA (h): sc-44048, PTP ζ siRNA (m): sc-44970, PTP ζ shRNA Plasmid (h): sc-44048-SH, PTP ζ shRNA Plasmid (m): sc-44970-SH, PTP ζ shRNA (h) Lentiviral Particles: sc-44048-V and PTP ζ shRNA (m) Lentiviral Particles: sc-44970-V.

Molecular Weight of PTP ζ short form: 190 kDa.

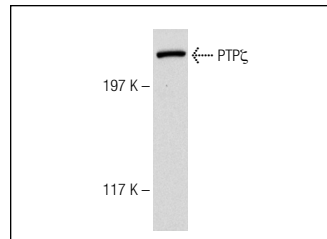
Molecular Weight of glycosylated PTP ζ form: 350-400 kDa.

Positive Controls: 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) 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



PTP ζ (C-19): sc-1110. Western blot analysis of PTP ζ expression in SK-N-SH whole cell lysate.

SELECT PRODUCT CITATIONS

- Grant, P., et al. 2004. Topographic regulation of phosphorylation in giant neurons of the squid, *Loligo pealei*: role of phosphatases. *J. Neurobiol.* 58: 514-528.
- Polykratis, A., et al. 2005. Characterization of heparin affinity regulatory peptide signaling in human endothelial cells. *J. Biol. Chem.* 280: 22454-22461.
- Wu, C.W., et al. 2006. Protein tyrosine-phosphatase expression profiling in gastric cancer tissues. *Cancer Lett.* 242: 95-103.
- Gau, B.H., et al. 2011. FUBP3 interacts with FGF9 3' microsatellite and positively regulates FGF9 translation. *Nucleic Acids Res.* 39: 3582-3593.
- Latarya, G., et al. 2012. Human aqueous humor phosphatase activity in cataract and glaucoma. *Invest. Ophthalmol. Vis. Sci.* 53: 1679-1684.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.


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Try **PTP ζ (122.2): sc-33664**, our highly recommended monoclonal alternative to PTP ζ (C-19).