

PTP κ (M-20): sc-1113

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*.

REFERENCES

- 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.
- 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.
- 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.
- Milev, P., et al. 1995. Complex-type asparagine-linked oligosaccharides on phosphacan and protein-tyrosine phosphatase- ζ/β mediate their binding to neural cell adhesion molecules and tenascin. *J. Biol. Chem.* 270: 24650-24653.

CHROMOSOMAL LOCATION

Genetic locus: PTPRK (human) mapping to 6q22.3; Ptpk (mouse) mapping to 10 A4.

SOURCE

PTP κ (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of PTP κ of mouse 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-1113 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PTP κ (M-20) is recommended for detection of precursor and mature PTP κ 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 κ (M-20) is also recommended for detection of precursor and mature PTP κ in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PTP κ siRNA (h): sc-44050, PTP κ siRNA (m): sc-155948, PTP κ shRNA Plasmid (h): sc-44050-SH, PTP κ shRNA Plasmid (m): sc-155948-SH, PTP κ shRNA (h) Lentiviral Particles: sc-44050-V and PTP κ shRNA (m) Lentiviral Particles: sc-155948-V.

Molecular Weight of precursor PTP κ : 210 kDa.

Molecular Weight of PTP κ subunits: 100 and 110 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.

SELECT PRODUCT CITATIONS

- Nakamura, M., et al. 2003. Novel tumor suppressor loci on 6q22-23 in primary central nervous system lymphomas. *Cancer Res.* 63: 737-741.
- González-Fernández, L., et al. 2009. Identification of protein tyrosine phosphatases and dual-specificity phosphatases in mammalian spermatozoa and their role in sperm motility and protein tyrosine phosphorylation. *Biol. Reprod.* 80: 1239-1252.

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.



Try **PTP κ (H-3): sc-374315**, our highly recommended monoclonal alternative to PTP κ (M-20).