

PTP κ (E-18): sc-30804

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 μ and PTP κ . 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 two fold 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. PTP μ localizes to points of cell contact and may be involved in regulating the assembly and disassembly of cadherin/catenin complexes *in vivo*. PTP μ and PTP κ share a conserved amino-terminal 160 amino acid MAM domain which facilitates homophilic binding. An alternative splicing event leads to a nervous tissue-specific chondroitin sulfate proteoglycan called phosphacan, which represents the amino terminal portion of PTP ζ .

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 PTP μ associates with cadherins and catenins *in vivo*. *J. Cell Biol.* 130: 977-986.
- Zondag, G.C., et al. 1995. Homophilic interactions mediated by receptor tyrosine phosphatases μ and κ . A critical role for the novel extracellular MAM domain. *J. Biol. Chem.* 270: 14247-14250.
- 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.
- Elson, A., et al. 1995. Protein-tyrosine phosphatase ϵ . An isoform specifically expressed in mouse mammary tumors initiated by v-Ha-Ras or Neu. *J. Biol. Chem.* 270: 26116-26122.

CHROMOSOMAL LOCATION

Genetic locus: PTPRK (human) mapping to 6q22.33; Ptpk (mouse) mapping to 10 A4.

SOURCE

PTP κ (E-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of PTP κ 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-30803 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PTP κ (E-18) 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 (E-18) is also recommended for detection of precursor and mature PTP κ in additional species, including equine, canine, bovine and porcine.

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 PTP κ precursor: 210 kDa.

Molecular Weight of PTP κ cleavage product: 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.

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.



Try PTP κ (H-3): sc-374315, our highly recommended monoclonal alternative to PTP κ (E-18).