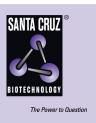
## SANTA CRUZ BIOTECHNOLOGY, INC.

# PTPκ (F-15): sc-30807



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 $\alpha$ , PTP $\beta$ , PTP $\gamma$ , PTP $\zeta$ , PTP $\epsilon$ , PTP $\mu$ , PTP $\kappa$ and PTPw. 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 $\alpha$  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<sub>E</sub> expression. PTP<sub>µ</sub> localizes to points of cell contact and may be involved in regulating the assembly and disassembly of cadherin/catenin complexes in vivo.  $PTP\mu$  and  $PTP\kappa$  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 PTPω.

#### REFERENCES

- 1. Ahmad, F., et al. 1995. Increased abundance of the receptor-type proteintyrosine phosphatase LAR accounts for the elevated Insulin receptor dephosphorylating activity in adipose tissue of obese human subjects. J. Clin. Invest. 95: 2806-2812.
- 2. den Hertog, J., et al. 1995. Stimulation of receptor protein-tyrosine phosphatase  $\alpha$  activity and phosphorylation by phorbol ester. Cell Growth Differ. 6: 303-307.
- Elson, A. and Leder, P. 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.
- 4. Brady-Kalnay, S.M., et al. 1995. Receptor protein tyrosine phosphatase PTP $\mu$  associates with cadherins and catenins *in vivo*. J. Cell Biol. 130: 977-986.
- 5. Zondag, G.C., et al. 1995. Homophilic interactions mediated by receptor tyrosine phosphatases  $\mu$  and  $\kappa$ . A critical role for the novel extracellular MAM domain. J. Biol. Chem. 270: 14247-14250.

#### CHROMOSOMAL LOCATION

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

#### SOURCE

 $\text{PTP}\kappa$  (F-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of  $\text{PTP}\kappa$  of human origin.

### PRODUCT

Each vial contains 200  $\mu g$  lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-30807 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

PTP<sub>K</sub> (F-15) is recommended for detection of precursor and mature PTP<sub>K</sub> of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

 $\text{PTP}\kappa$  (F-15) is also recommended for detection of precursor and mature  $\text{PTP}\kappa$  in additional species, including equine, canine, bovine, porcine and avian.

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

Molecular Weight of PTPk precursor: 210 kDa.

Molecular Weight of PTP $\kappa$  cleavage product: 110 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or c4 whole cell lysate: sc-364186

#### **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) Immunofluo-rescence: use 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.

# **MONOS** Satisfation Guaranteed Try **PTP**κ (H-3): sc-374315, our highly recommended monoclonal alternative to PTPκ (F-15).