SANTA CRUZ BIOTECHNOLOGY, INC.

# PTPε (C-20): sc-1117

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

## REFERENCES


1. 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.
2. 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.
3. 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.
4. 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.


## CHROMOSOMAL LOCATION

Genetic locus: PTPRE (human) mapping to 10q26; Ptpre (mouse) mapping to 7 F3.

## SOURCE

PTPε (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PTPε of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-1117 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

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

## APPLICATIONS

PTPε (C-20) is recommended for detection of PTPε and, to a lesser extent, PTPα of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

PTPε (C-20) is also recommended for detection of PTPε and, to a lesser extent, PTPα in additional species, including equine, canine, bovine, porcine and avian.

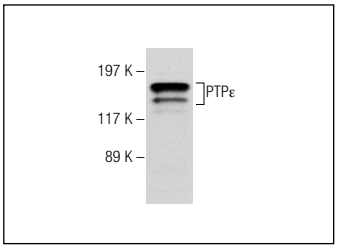
Suitable for use as control antibody for PTPε siRNA (h): sc-44054, PTPε siRNA (m): sc-152582, PTPε shRNA Plasmid (h): sc-44054-SH, PTPε shRNA Plasmid (m): sc-152582-SH, PTPε shRNA (h) Lentiviral Particles: sc-44054-V and PTPε shRNA (m) Lentiviral Particles: sc-152582-V.

Molecular Weight of glycosylated PTPε: 105 kDa.

Molecular Weight of unglycosylated PTPε: 85 kDa.

Positive Controls: rat brain extract: sc-2392.

## DATA




PTPε (C-20): sc-1117. Western blot analysis of rat brain extract revealing a high molecular weight isoform of PTPε.

## SELECT PRODUCT CITATIONS


1. 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.


## RESEARCH USE

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

## PROTOCOLS

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