SANTA CRUZ BIOTECHNOLOGY, INC.

PTPε (G-2): sc-515692

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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, PTPω, 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 PTPe expression. An alternative splicing event leads to a nervous tissue-specific chondroitin sulfate proteoglycan called phosphacan, which represents the amino terminal portion of PTPω. 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. 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.
4. Brady-Kalnay, S.M., et al. 1995. Receptor protein tyrosine phosphatase PTPμ 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 μ and κ. A critical role for the novel extracellular MAM domain. J. Biol. Chem. 270: 14247-14250.
6. 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: PTPRE (human) mapping to 10q26.2, PTPRA (human) mapping to 20p13; Ptpre (mouse) mapping to 7 F3, Ptpra (mouse) mapping to 2 F1.

SOURCE

PTPε (G-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 678-699 at the C-terminus of PTPε of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG_3 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

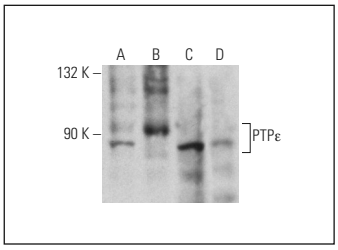
PTPε (G-2) is recommended for detection of PTPε and, to a lesser extent, PTPα of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of glycosylated PTPε: 105 kDa.

Molecular Weight of unglycosylated PTPε: 85 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HL-60 whole cell lysate: sc-2209 or rat brain extract: sc-2392.

DATA



PTPε (G-2): sc-515692. Western blot analysis of PTPε expression in SR (**A**), HeLa (**B**) and HL-60 (**C**) whole cell lysates and rat brain tissue extract (**D**).

STORAGE

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

PROTOCOLS

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