

PTP ψ (E-2): sc-393104



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, PTP α , PTP β , PTP γ , PTP δ , PTP ϵ , PTP ζ , PTP κ , PTP μ and PTP ψ . Transmembrane PTPs play diverse roles in a variety of cellular processes during development and in adult tissues. PTP ψ , also known as PTPRU, FMI, PCP-2, PTP-J, PTPRO, PTP-PI, PTPPSI or GLEPP1, is a receptor-type PTP containing a transmembrane region, two intracellular tandem catalytic domains, and an extracellular region with Ig-like and fibronectin type III-like repeats and a MAM (meprin-A5 antigen-PTP μ) domain. PTP ψ localizes to adheren junctions and is capable of binding and dephosphorylating β -catenin thereby functioning as a negative regulator of β -catenin signaling. In addition, PTP ψ may function as a tumor suppressor, as its expression is silenced in a variety of tumors via methylation of its promoter.

REFERENCES

1. Sommer, L., et al. 1997. RPTP δ and the novel protein tyrosine phosphatase RPTP ψ are expressed in restricted regions of the developing central nervous system. *Dev. Dyn.* 208: 48-61.
2. Avraham, S., et al. 1997. Characterization and chromosomal localization of PTPRO, a novel receptor protein tyrosine phosphatase, expressed in hematopoietic stem cells. *Gene* 204: 5-16.
3. Taniguchi, Y., et al. 1999. The receptor protein tyrosine phosphatase, PTP-RO, is upregulated during megakaryocyte differentiation and is associated with the c-Kit receptor. *Blood* 94: 539-549.
4. McArdle, L., et al. 2001. Protein tyrosine phosphatase genes downregulated in melanoma. *J. Invest. Dermatol.* 117: 1255-1260.

CHROMOSOMAL LOCATION

Genetic locus: PTPRU (human) mapping to 1p35.3.

SOURCE

PTP ψ (E-2) is a mouse monoclonal antibody raised against amino acids 1-96 mapping at the N-terminus of PTP ψ of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PTP ψ (E-2) is available conjugated to agarose (sc-393104 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393104 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393104 PE), fluorescein (sc-393104 FITC), Alexa Fluor[®] 488 (sc-393104 AF488), Alexa Fluor[®] 546 (sc-393104 AF546), Alexa Fluor[®] 594 (sc-393104 AF594) or Alexa Fluor[®] 647 (sc-393104 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-393104 AF680) or Alexa Fluor[®] 790 (sc-393104 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

PTP ψ (E-2) is recommended for detection of PTP ψ of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

Suitable for use as control antibody for PTP ψ siRNA (h): sc-62910, PTP ψ shRNA Plasmid (h): sc-62910-SH and PTP ψ shRNA (h) Lentiviral Particles: sc-62910-V.

Molecular Weight of full length PTP ψ : 200 kDa.

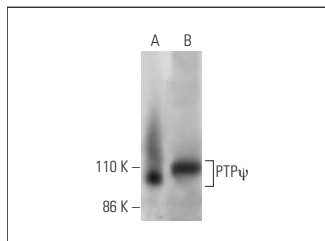
Molecular Weight of cleaved extracellular PTP ψ fragment: 100 kDa.

Positive Controls: human brain hippocampus extract: sc-364375 or human lung extract: sc-363767.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



PTP ψ (E-2): sc-393104. Western blot analysis of PTP ψ expression in human hippocampus (A) and human lung (B) tissue extracts.

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.

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