SANTA CRUZ BIOTECHNOLOGY, INC.

PTPμ (2C10): sc-56957

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, 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 PTPμ associates with cadherins and catenins *in vivo*. J. Cell Biol. 130: 977-986.

CHROMOSOMAL LOCATION

Genetic locus: PTPRM (human) mapping to 18p11.23; Ptprm (mouse) mapping to 17 E1.1.

SOURCE

PTPμ (2C10) is a mouse monoclonal antibody raised against the extracellular domain of PTPμ of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PTPμ (2C10) is available conjugated to agarose (sc-56957 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-56957 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-56957 PE), fluorescein (sc-56957 FITC), Alexa Fluor® 488 (sc-56957 AF488), Alexa Fluor® 546 (sc-56957 AF546), Alexa Fluor® 594 (sc-56957 AF594) or Alexa Fluor® 647 (sc-56957 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-56957 AF680) or Alexa Fluor® 790 (sc-56957 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PTPμ (2C10) is recommended for detection of PTPμ of mouse, rat, human and mink 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)] and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for PTPμ siRNA (h): sc-44055, PTPμ siRNA (m): sc-45947, PTPμ shRNA Plasmid (h): sc-44055-SH, PTPμ shRNA Plasmid (m): sc-45947-SH, PTPμ shRNA (h) Lentiviral Particles: sc-44055-V and PTPμ shRNA (m) Lentiviral Particles: sc-45947-V.

Molecular Weight of PTPμ precursor: 200 kDa.

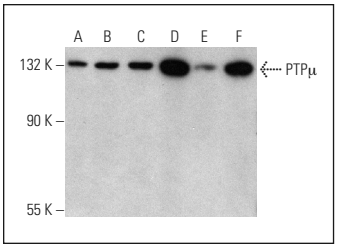
Molecular Weight of PTPμ subunits: 100 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, Mv 1 Lu cell lysate: sc-3810 or RAT2 whole cell lysate: sc-364198.

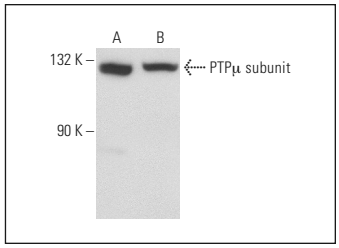
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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).

DATA



PTPμ (2C10): sc-56957. Western blot analysis of PTPμ expression in T98G (**A**), Caki-1 (**B**), NIH/3T3 (**C**), Sol8 (**D**), C6 (**E**) and H19-7/IGF-IR (**F**) whole cell lysates.



PTPμ (2C10): sc-56957. Western blot analysis of PTPμ expression in Mv 1 Lu (**A**) and RAT2 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Chattopadhyay, R., et al. 2017. Resolvin D1 via prevention of Ros-mediated SHP2 inactivation protects endothelial adherens junction integrity and barrier function. Redox Biol. 12: 438-455.

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 for detailed protocols and support products.