SANTA CRUZ BIOTECHNOLOGY, INC.

PTPμ (BK2): sc-33651

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, PTPc, 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*.

CHROMOSOMAL LOCATION

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

SOURCE

PTPμ (BK2) is a mouse monoclonal antibody raised against a synthetic peptide from the extracellular segment of PTPμ.

PRODUCT

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

APPLICATIONS

PTPμ (BK2) is recommended for detection of full length PTPμ (200 kDa) and extracellular, E-subunit (100 kDa) of mouse, rat, human and *Xenopus laevis* 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 immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

PTPμ (BK2) is also recommended for detection of full length PTPμ (200 kDa) and extracellular, E-subunit (100 kDa) in additional species, including bovine.

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.

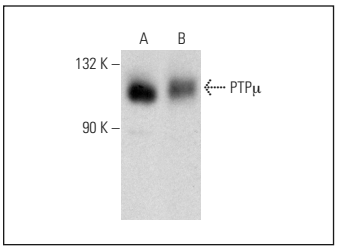
Molecular Weight of PTPμ subunits: 100 kDa.

Positive Controls: A549 cell lysate: sc-2413, HUV-EC-C whole cell lysate: sc-364180 or T98G cell lysate: sc-2294.

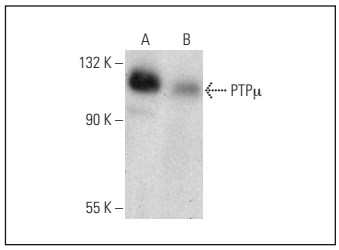
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



PTPμ (BK2): sc-33651. Western blot analysis of PTPμ expression in T98G (**A**) and HUV-EC-C (**B**) whole cell lysates.



PTPμ (BK2): sc-33651. Western blot analysis of PTPμ expression in A549 (**A**) and RAT2 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Johnson, J.L., et al. 2009. Tetraspanin CD151 regulates RhoA activation and the dynamic stability of carcinoma cell-cell contacts. J. Cell Sci. 122: 2263-2273.
2. Takahashi, K., et al. 2017. Expression of receptor-type protein tyrosine phosphatase in developing and adult renal vasculature. PLoS ONE 12: e0177192.

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.