

PTP κ (H-3): sc-374315

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 and PTP μ . Transmembrane PTPs play diverse roles during development and in adult tissues. Immunodepletion studies have suggested LAR to be a regulator of Insulin receptor phosphorylation. PTP α 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 PTP ϵ expression. An alternative splicing event leads to a nervous tissue-specific chondroitin sulfate proteoglycan called phosphacan, which represents the amino terminal portion of PTP ζ . PTP κ and PTP μ share a conserved amino-terminal 160 amino acid MAM domain which facilitates homophilic binding. PTP μ 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.

CHROMOSOMAL LOCATION

Genetic locus: PTPRK (human) mapping to 6q22.33; Ptpk (mouse) mapping to 10 A4.

SOURCE

PTP κ (H-3) is a mouse monoclonal antibody raised against amino acids 27-101 mapping within an N-terminal extracellular domain of PTP κ of human origin.

PRODUCT

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

PTP κ (H-3) is available conjugated to agarose (sc-374315 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374315 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374315 PE), fluorescein (sc-374315 FITC), Alexa Fluor[®] 488 (sc-374315 AF488), Alexa Fluor[®] 546 (sc-374315 AF546), Alexa Fluor[®] 594 (sc-374315 AF594) or Alexa Fluor[®] 647 (sc-374315 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-374315 AF680) or Alexa Fluor[®] 790 (sc-374315 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 κ (H-3) is recommended for detection of PTP κ of mouse, rat and 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).

PTP κ (H-3) is also recommended for detection of PTP κ in additional species, including bovine and porcine.

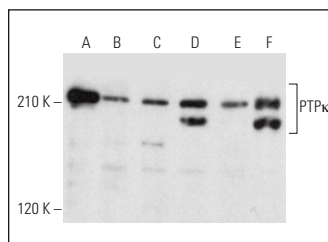
Suitable for use as control antibody for PTP κ siRNA (h): sc-44050, PTP κ siRNA (m): sc-155948, PTP κ shRNA Plasmid (h): sc-44050-SH, PTP κ shRNA Plasmid (m): sc-155948-SH, PTP κ shRNA (h) Lentiviral Particles: sc-44050-V and PTP κ shRNA (m) Lentiviral Particles: sc-155948-V.

Molecular Weight of PTP κ precursor: 210 kDa.

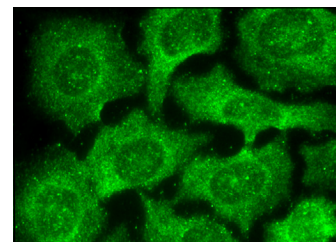
Molecular Weight of PTP κ subunits: 110/100 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, c4 whole cell lysate: sc-364186 or AMJ2-C8 whole cell lysate: sc-364366.

DATA



PTP κ (H-3): sc-374315. Western blot analysis of PTP κ expression in c4 (A), Hep G2 (B), A549 (C), AMJ2-C8 (D), HISM (E) and KNRK (F) whole cell lysates.



PTP κ (H-3): sc-374315. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization.

SELECT PRODUCT CITATIONS

1. Ha, S.J., et al. 2018. Syringic acid prevents skin carcinogenesis via regulation of NoX and EGFR signaling. *Biochem. Pharmacol.* 154: 435-445.
2. Chen, D., et al. 2021. The circRAB3IP mediated by eIF4A3 and LEF1 contributes to enzalutamide resistance in prostate cancer by targeting miR-133a-3p/miR-133b/SGK1 pathway. *Front. Oncol.* 11: 752573.
3. Świerczewska, M., et al. 2023. The response and resistance to drugs in ovarian cancer cell lines in 2D monolayers and 3D spheroids. *Biomed. Pharmacother.* 165: 115152.
4. Kang, D., et al. 2024. miR-29a-3p orchestrates key signaling pathways for enhanced migration of human mesenchymal stem cells. *Cell Commun. Signal.* 22: 365.

RESEARCH USE

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

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