SANTA CRUZ BIOTECHNOLOGY, INC.

LAR (7): sc-135969

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. PTPμ localizes to points of cell contact and may be involved in regulating the assembly and disassembly of cadherin/catenin complexes *in vivo*. PTPμ and PTPκ share a conserved amino-terminal 160 amino acid MAM domain which facilitates homophilic binding. An alternative splicing event leads to a nervous tissue-specific chondroitin sulfate proteoglycan called phosphacan, which represents the amino-terminal portion of PTPζ.

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. 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.
4. 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.
5. Elson, A., et al. 1995. Protein-tyrosine phosphatase epsilon. An isoform specifically expressed in mouse mammary tumors initiated by v-Ha-Ras or Neu. J. Biol. Chem. 270: 26116-26122.

CHROMOSOMAL LOCATION

Genetic locus: PTPRF (human) mapping to 1p34.2; Ptprf (mouse) mapping to 4 D2.1.

SOURCE

LAR (7) is a mouse monoclonal antibody raised against amino acids 24-196 of LAR of human origin.

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.

LAR (7) is available conjugated to agarose (sc-135969 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; and to HRP (sc-135969 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

APPLICATIONS

LAR (7) is recommended for detection of LAR of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000); not recommended for immunoprecipitation.

Suitable for use as control antibody for LAR siRNA (h): sc-35793, LAR siRNA (m): sc-35794, LAR shRNA Plasmid (h): sc-35793-SH, LAR shRNA Plasmid (m): sc-35794-SH, LAR shRNA (h) Lentiviral Particles: sc-35793-V and LAR shRNA (m) Lentiviral Particles: sc-35794-V.

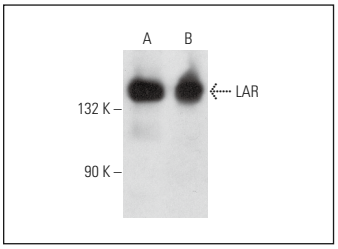
Molecular Weight of LAR: 240/150/85 kDa.

Positive Controls: ECV304 cell lysate: sc-2269, SW-13 cell lysate: sc-24778 or NRK whole cell lysate: sc-364197.

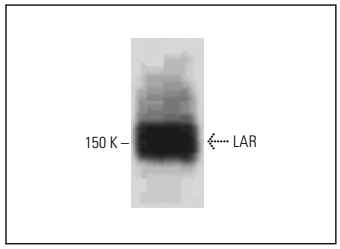
RECOMMENDED SUPPORT REAGENTS

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.

DATA



LAR (7): sc-135969. Western blot analysis of LAR expression in ECV304 (**A**) and SW-13 (**B**) whole cell lysates.



LAR (7): sc-135969. Western blot analysis of LAR expression in human endothelial whole cell lysate.

SELECT PRODUCT CITATIONS

1. Gan, T., et al. 2020. Inhibition of protein tyrosine phosphatase receptor type F suppresses Wnt signaling in colorectal cancer. Oncogene 39: 6789-6801.
2. Nguyen, M.Q., et al. 2022. Cytoneme-like protrusion formation induced by LAR is promoted by receptor dimerization. Biol. Open 11: bio059024.
3. Wang, J., et al. 2023. MiR-199a-3p regulates the PTPRF/β-catenin axis in hair follicle development: insights into the pathogenic mechanism of alopecia areata. Int. J. Mol. Sci. 24: 17632.

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. Not for resale.