

PHACTR3 (H-3): sc-390843

BACKGROUND

In eukaryotes, the phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions, including division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the protein phosphatases. PHACTR3 (phosphatase and Actin regulator 3), also known as Scapinin (scaffold-associated PP1-inhibiting protein), is a 559 amino acid nuclear matrix protein that inhibits protein phosphatase 1 (PP1) activity by binding actin and PP1 α , the catalytic subunit. PHACTR3 is highly expressed in brain, and expressed at lower levels in placenta, thymus and spleen. Mutations in the gene encoding PHACTR3 are found in non-small cell lung carcinoma and these mutations are associated with worse prognosis. There are three isoforms of PHACTR3 that are expressed as a result of alternative splicing events. PHACTR3 is upregulated in several tumor types, with isoform 3 being the major form in GOTO, HL-60 and U937 cell lines.

REFERENCES

1. Sagara, J., et al. 2003. Scapinin, a putative protein phosphatase-1 regulatory subunit associated with the nuclear nonchromatin structure. *J. Biol. Chem.* 278: 45611-45619.
2. Allen, P.B., et al. 2004. Phactrs 1-4: A family of protein phosphatase 1 and Actin regulatory proteins. *Proc. Natl. Acad. Sci. USA* 101: 7187-7192.
3. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608725. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: PHACTR3 (human) mapping to 20q13.32; Phactr3 (mouse) mapping to 2 H4.

SOURCE

PHACTR3 (H-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 257-244 within an internal region of PHACTR3 of human origin.

PRODUCT

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

PHACTR3 (H-3) is available conjugated to agarose (sc-390843 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390843 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390843 PE), fluorescein (sc-390843 FITC), Alexa Fluor® 488 (sc-390843 AF488), Alexa Fluor® 546 (sc-390843 AF546), Alexa Fluor® 594 (sc-390843 AF594) or Alexa Fluor® 647 (sc-390843 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390843 AF680) or Alexa Fluor® 790 (sc-390843 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390843 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

PHACTR3 (H-3) is recommended for detection of PHACTR3 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).

Suitable for use as control antibody for PHACTR3 siRNA (h): sc-76114, PHACTR3 siRNA (m): sc-152201, PHACTR3 shRNA Plasmid (h): sc-76114-SH, PHACTR3 shRNA Plasmid (m): sc-152201-SH, PHACTR3 shRNA (h) Lentiviral Particles: sc-76114-V and PHACTR3 shRNA (m) Lentiviral Particles: sc-152201-V.

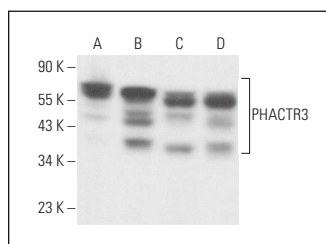
Molecular Weight of PHACTR3 isoforms: 60/75 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, HL-60 nuclear extract: sc-2147 or THP-1 cell lysate: sc-2238.

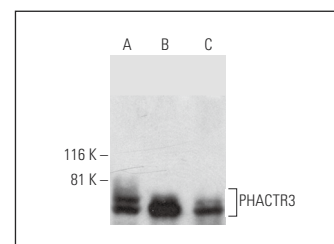
RECOMMENDED SUPPORT REAGENTS

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



PHACTR3 (H-3): sc-390843. Western blot analysis of PHACTR3 expression in HeLa (A), Neuro-2A (B), NIH/3T3 (C) and C6 (D) whole cell lysates.



PHACTR3 (H-3): sc-390843. Western blot analysis of PHACTR3 expression in Jurkat (A) and HL-60 (B) nuclear extracts and THP-1 whole cell lysate (C).

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.