

PHACTR3 (S-18): sc-85817

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 U-937 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/>
4. Worch, S., et al. 2006. Genomic organization and expression pattern of Scapinin (PHACTR3) in mouse and human. *Cytogenet. Genome Res.* 115: 23-29.
5. Tang, L.Y., et al. 2007. Quantitative phosphoproteome profiling of Wnt-3a-mediated signaling network: indicating the involvement of ribonucleoside-diphosphate reductase M2 subunit phosphorylation at residue serine 20 in canonical Wnt signal transduction. *Mol. Cell Proteomics* 6: 1952-1967.

CHROMOSOMAL LOCATION

Genetic locus: PHACTR3 (human) mapping to 20q13.32.

SOURCE

PHACTR3 (S-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PHACTR3 of human origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

PRODUCT

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

Blocking peptide available for competition studies, sc-85817 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PHACTR3 (S-18) is recommended for detection of PHACTR3 of human origin by Western Blotting (starting dilution 1:200, 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); non cross-reactive with PHACTR1, PHACTR2, and PHACTR4.

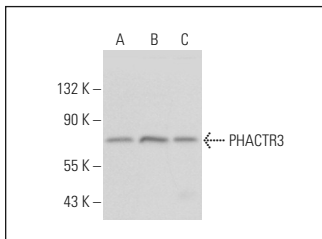
PHACTR3 (S-18) is also recommended for detection of PHACTR3 in additional species, including equine and canine.

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

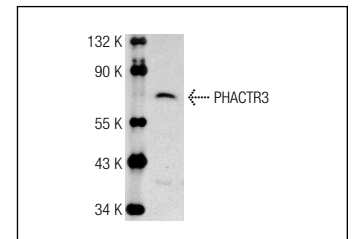
Molecular Weight of PHACTR3 isoforms: 60/75 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

DATA



PHACTR3 (S-18): sc-85817. Western blot analysis of PHACTR3 expression in HEK293 (A), HeLa (B) and K-562 (C) whole cell lysates.



PHACTR3 (S-18): sc-85817. Western blot analysis of PHACTR3 expression in Jurkat nuclear extract.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

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Try **PHACTR3 (H-3): sc-390843**, our highly recommended monoclonal alternative to PHACTR3 (S-18).