

PHACTR4 (H-65): sc-292111

BACKGROUND

Phosphatase and actin regulator (PHACTR) family of proteins play a key role in inhibiting the activity of a multifunctional enzyme, protein phosphatase 1 (PP1). PP1 promotes synaptic activity and dendritic morphology in the nervous system. It is suggested that members of the PHACTR family members may be involved in regulation of cytoskeletal dynamics due to their interaction with cytoplasmic β -actin and globular Actin (G-actin). PHACTR4 (phosphatase and actin regulator 4), also known as PRO2963, is a 702 amino acid protein that regulates neural tube and optic fissure closure. PHACTR4 contains three RPEL motifs and multiple phosphorylation sites. Six isoforms exist due to alternative splicing events.

REFERENCES

1. Strack, S., et al. 1999. Differential cellular and subcellular localization of protein phosphatase 1 isoforms in brain. *J. Comp. Neurol.* 413: 373-384.
2. Oliver, C.J., et al. 2002. Targeting protein phosphatase 1 (PP1) to the actin cytoskeleton: the neurabin I/PP1 complex regulates cell morphology. *Mol. Cell. Biol.* 22: 4690-4701.
3. 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.
4. Hu, X.D., et al. 2006. Actin-associated neurabin-protein phosphatase-1 complex regulates hippocampal plasticity. *J. Neurochem.* 98: 1841-1851.
5. Kim, T.H., et al. 2007. Phactr4 regulates neural tube and optic fissure closure by controlling PP1-, Rb-, and E2F1-regulated cell-cycle progression. *Dev. Cell* 13: 87-102.
6. Larson, J.R., et al. 2008. Protein phosphatase type 1 directs chitin synthesis at the bud neck in *Saccharomyces cerevisiae*. *Mol. Biol. Cell* 19: 3040-3051.

CHROMOSOMAL LOCATION

Genetic locus: PHACTR4 (human) mapping to 1p35.3; Phactr4 (mouse) mapping to 4 D2.3.

SOURCE

PHACTR4 (H-65) is a rabbit polyclonal antibody raised against amino acids 415-479 mapping within an internal region of PHACTR4 of human origin.

PRODUCT

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

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.

APPLICATIONS

PHACTR4 (H-65) is recommended for detection of PHACTR4 of mouse and 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).

PHACTR4 (H-65) is also recommended for detection of PHACTR4 in additional species, including canine.

Suitable for use as control antibody for PHACTR4 siRNA (h): sc-88147, PHACTR4 siRNA (m): sc-106405, PHACTR4 shRNA Plasmid (h): sc-88147-SH, PHACTR4 shRNA Plasmid (m): sc-106405-SH, PHACTR4 shRNA (h) Lentiviral Particles: sc-88147-V and PHACTR4 shRNA (m) Lentiviral Particles: sc-106405-V.

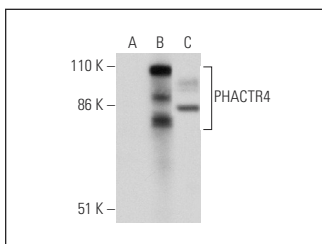
Molecular Weight of PHACTR4: 78 kDa.

Positive Controls: PHACTR4 (h): 293T Lysate: sc-373558 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PHACTR4 (H-65): sc-292111. Western blot analysis of PHACTR4 expression in non-transfected 293T: sc-117752 (A), human PHACTR4 transfected 293T: sc-373558 (B) and HeLa (C) whole cell lysates.

RESEARCH USE

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