

PHACTR4 (D-17): sc-103816

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 (mouse) mapping to 4 D2.3.

SOURCE

PHACTR4 (D-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PHACTR4 of mouse origin.

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-103816 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

PHACTR4 (D-17) is recommended for detection of PHACTR4 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 or PHACTR3.

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

Molecular Weight of PHACTR4: 78 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

PROTOCOLS

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