



## PHACTR2 (Y-13): sc-107931

### 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  $\beta$ -Actin and soluble globular Actin (G-Actin). PHACTR2 (phosphatase and Actin regulator 4), also known as C6orf56 or KIAA0680, is a 634 amino acid protein that contains four RPEL motifs and multiple phosphorylation sites. Three isoforms exist due to alternative splicing events.

### REFERENCES

1. Strack, S., Kini, S., Ebner, F.F., Wadzinski, B.E. and Colbran, R.J. 1999. Differential cellular and subcellular localization of protein phosphatase 1 isoforms in brain. *J. Comp. Neurol.* 413: 373-384.
2. Oliver, C.J., Terry-Lorenzo, R.T., Elliott, E., Bloomer, W.A., Li, S., Brautigan, D.L., Colbran, R.J. and Shenolikar, S. 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., Greenfield, A.T., Svenningsson, P., Haspeslagh, D.C. and Greengard, P. 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., Huang, Q., Roadcap, D.W., Shenolikar, S.S. and Xia, H. 2006. Actin-associated neurabin-protein phosphatase-1 complex regulates hippocampal plasticity. *J. Neurochem.* 98: 1841-1851.
5. Kim, T.H., Goodman, J., Anderson, K.V. and Niswander, L. 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., Bharucha, J.P., Ceaser, S., Salamon, J., Richardson, C.J., Rivera, S.M. and Tatchell, K. 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: PHACTR2 (human) mapping to 6q24.2; Phactr2 (mouse) mapping to 10 A2.

### SOURCE

PHACTR2 (Y-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PHACTR2 of human origin.

### PRODUCT

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

Blocking peptide available for competition studies, sc-107931 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### RESEARCH USE

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

### APPLICATIONS

PHACTR2 (Y-13) is recommended for detection of PHACTR2 of mouse, rat and human 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).

Suitable for use as control antibody for PHACTR2 siRNA (h): sc-95290, PHACTR2 siRNA (m): sc-152200, PHACTR2 shRNA Plasmid (h): sc-95290-SH, PHACTR2 shRNA Plasmid (m): sc-152200-SH, PHACTR2 shRNA (h) Lentiviral Particles: sc-95290-V and PHACTR2 shRNA (m) Lentiviral Particles: sc-152200-V.

Molecular Weight of PHACTR2: 70 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.

### 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](http://www.scbt.com) or our catalog for detailed protocols and support products.