

# PHR1 (Y-19): sc-50663

## BACKGROUND

Pleckstrin homology domain retinal protein 1 (PHR1), also designated Pleckstrin homology domain-containing family B member 1, is a membrane protein that contains a Pleckstrin homology (PH) domain at its N-terminus and a 27 amino acid transmembrane segment at its C-terminus, along with several casein kinase II phosphorylation sites and a putative protein kinase C (PKC) phosphorylation site. The full-length mouse and human PHR1 proteins contain 243 amino acid residues and share 94% sequence identity. The presence of two transcription start sites and alternative splicing results in four PHR1 isoforms in both humans and mice. All PHR1 isoforms bind to transducin  $\beta$  subunits, the binding of which is dependent upon the N-terminal 137 residues of full-length PHR1. This suggests that the PH domain (amino acids 21 to 128), which is present in all PHR1 isoforms, mediates binding. PHR1 shows pre-dominant expression in the outer segments of photoreceptor cells, both in rods and cones, as well as in retina and brain tissues.

## REFERENCES

- Andrews, K.L., Potdar, P.D., Nettesheim, P. and Ostrowski, L.E. 2000. KPL1, which encodes a novel PH domain-containing protein, is induced during ciliated cell differentiation of rat tracheal epithelial cells. *Exp. Lung Res.* 26: 257-271.
- Xu, S., Ladak, R., Swanson, D.A., Soltyk, A., Sun, H., Ploder, L., Vidgen, D., Duncan, A.M., Garami, E., Valle, D. and McInnes, R.R. 2000. PHR1 encodes an abundant, Pleckstrin homology domain-containing integral membrane protein in the photoreceptor outer segments. *J. Biol. Chem.* 274: 35676-35685.
- Xu, S., Wang, Y., Zhao, H., Zhang, L., Xiong, W., Yau, K.W., Hiel, H., Glowatzki, E., Ryugo, D.K. and Valle, D. 2004. PHR1, a PH domain-containing protein expressed in primary sensory neurons. *Mol. Cell. Biol.* 24: 9137-51.
- Etournay, R., El-Amraoui, A., Bahloul, A., Blanchard, S., Roux, I., Pezeron, G., Michalski, N., Daviet, L., Hardelin, J.P., Legrain, P. and Petit, C. 2005. PHR1, an integral membrane protein of the inner ear sensory cells, directly interacts with Myosin 1c and Myosin VIIa. *J. Cell Sci.* 118: 2891-2899.
- Johansson, F.K., Göransson, H. and Westermarck, B. 2005. Expression analysis of genes involved in brain tumor progression driven by retroviral insertional mutagenesis in mice. *Oncogene* 24: 3896-3905.
- Colin, C., Baeza, N., Bartoli, C., Fina, F., Eudes, N., Nanni, I., Martin, P.M., Ouafik, L. and Figarella-Branger, D. 2006. Identification of genes differentially expressed in glioblastoma versus pilocytic astrocytoma using suppression subtractive hybridization. *Oncogene* 25: 2818-2826.

## CHROMOSOMAL LOCATION

Genetic locus: PLEKHB1 (human) mapping to 11q13.4; Plekhh1 (mouse) mapping to 7 E3.

## SOURCE

PHR1 (Y-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PHR1 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-50663 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PHR1 (Y-19) is recommended for detection of PHR1 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).

PHR1 (Y-19) is also recommended for detection of PHR1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PHR1 siRNA (h): sc-61336, PHR1 siRNA (m): sc-61337, PHR1 shRNA Plasmid (h): sc-61336-SH, PHR1 shRNA Plasmid (m): sc-61337-SH, PHR1 shRNA (h) Lentiviral Particles: sc-61336-V and PHR1 shRNA (m) Lentiviral Particles: sc-61337-V.

Molecular Weight of PHR1: 27 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.