SANTA CRUZ BIOTECHNOLOGY, INC.

PHR1 siRNA (m): sc-61337

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 βγ 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 predominant expression in the outer segments of photoreceptor cells, both in rods and cones, as well as in retina and brain tissues.

REFERENCES

1. Andrews, K.L., et al. 2000. KPL1, which ciliated cell differentiation of rat tracheal epithelial cells. Exp. Lung Res. 26: 257-271.
2. Xu, S., et al. 2000. PHR1 encodes an abundan protein in the photoreceptor outer segments. J. Biol. Chem. 274: 35676-35685.
3. Xu, S., et al. 2004. PHR1, a PH domain-containing protein expressed in primary sensory neurons. Mol. Cell. Biol. 24: 9137-9151.
4. Etournay, R., et al. 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.
5. Johansson, F.K., et al. 2005. Expression analysis of genes involved in brain tumor progression driven by retroviral insertional mutagenesis in mice. Oncogene 24: 3896-3905.
6. Colin, C., et al. 2006. Identification of genes differentially expressed in glioblastoma versus pilocytic astrocytoma using Suppression Subtractive Hybridization. Oncogene 25: 2818-2826.

CHROMOSOMAL LOCATION

Genetic locus: Plekhb1 (mouse) mapping to 7 E3.

PRODUCT

PHR1 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PHR1 shRNA Plasmid (m): sc-61337-SH and PHR1 shRNA (m) Lentiviral Particles: sc-61337-V as alternate gene silencing products.

For independent verification of PHR1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-61337A, sc-61337B and sc-61337C.

RESEARCH USE

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PHR1 siRNA (m) is recommended for the inhibition of PHR1 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PHR1 gene expression knockdown using RT-PCR Primer: PHR1 (m)-PR: sc-61337-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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