

# PHLDB2 siRNA (h): sc-77974

## BACKGROUND

PHLDB2 (Pleckstrin homology-like domain family B member 2), also known as Protein LL5- $\beta$ , is a 1,253 amino acid protein that contains a spectrin repeat and C-terminal Pleckstrin homology (PH) domain. Through its PH domain, PHLDB2 interacts with several phosphoinositides, with highest affinity for phosphatidylinositol 3,4,5-trisphosphate (PtdIns(3,4,5)P<sub>3</sub>). In response to decreased PtdIns(3,4,5)P<sub>3</sub> levels, PHLDB2 translocates to vesicular compartments, whereas at high hormone-stimulated PtdIns(3,4,5)P<sub>3</sub> levels, PHLDB2 is localized to the plasma membrane. This suggests that PHLDB2 serves as a sensor of PtdIns(3,4,5)P<sub>3</sub> levels. In a PI3K-independent fashion, PHLDB2 binds Filamin 2, a protein that is involved in reorganizing the Actin cytoskeleton in response to signaling events. PHLDB2 is expressed at highest levels in placenta, heart and kidney. There are three isoforms of PHLDB2 that are produced as a result of alternative splicing events.

## REFERENCES

1. Dowler, S., et al. 2000. Identification of Pleckstrin-homology-domain-containing proteins with novel phosphoinositide-binding specificities. *Biochem. J.* 351: 19-31.
2. Katoh, M. and Katoh, M. 2003. Identification and characterization of human LL5A gene and mouse Ll5a gene in silico. *Int. J. Oncol.* 23: 1477-1483.
3. Paravinitane, V., et al. 2003. LL5 $\beta$  is a phosphatidylinositol (3,4,5)-trisphosphate sensor that can bind the cytoskeletal adaptor,  $\gamma$ -filamin. *J. Biol. Chem.* 278: 1328-1335.
4. Kishi, M., et al. 2005. LL5 $\beta$ : a regulator of postsynaptic differentiation identified in a screen for synaptically enriched transcripts at the neuromuscular junction. *J. Cell Biol.* 169: 355-366.
5. Goodson, H.V. and Folker, E.S. 2006. CLASping the cell cortex. *Dev. Cell* 11: 4-5.
6. Lansbergen, G., et al. 2006. CLASPs attach microtubule plus ends to the cell cortex through a complex with LL5 $\beta$ . *Dev. Cell* 11: 21-32.

## CHROMOSOMAL LOCATION

Genetic locus: PHLDB2 (human) mapping to 3q13.2.

## PRODUCT

PHLDB2 siRNA (h) 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PHLDB2 shRNA Plasmid (h): sc-77974-SH and PHLDB2 shRNA (h) Lentiviral Particles: sc-77974-V as alternate gene silencing products.

For independent verification of PHLDB2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-77974A, sc-77974B and sc-77974C.

## PROTOCOLS

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

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

PHLDB2 siRNA (h) is recommended for the inhibition of PHLDB2 expression in human 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  $\mu$ M in 66  $\mu$ l. 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 PHLDB2 gene expression knockdown using RT-PCR Primer: PHLDB2 (h)-PR: sc-77974-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## RESEARCH USE

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