SANTA CRUZ BIOTECHNOLOGY, INC.

PHLDB1 siRNA (h): sc-97072

BACKGROUND

PHLDB1 (Pleckstrin homology-like domain family B member 1), also known as LL5-α, is a 1,377 amino acid protein that contains a spectrin repeat and C-terminal pleckstrin homology (PH) domain. Like its homologue PHLDB2, PHLDB1 interacts with several phosphoinositides through its PH domain, with highest affinity for phosphatidylinositol 3,4,5-trisphosphate (PI(3,4,5)P3), (PI)-(3,4)P2 and PI(3,5)P2. It is suggested that PHLDB1 acts as an Insulin responsive protein that enhances Akt activation. PHLDB1 may be associated with certain rare cancers such as glioma, a cancer of the brain that begins in glial cells. PHLDB1 exists as three alternatively spliced isoforms whose expression is increased during adipocyte differentiation. PHLDB1 is encoded by a gene located on human chromosome 11, which houses over 1,400 genes and comprises nearly 4% of the human genome.

REFERENCES

1. Katoh, M. and Katoh, M. 2003. Identification and characterization of human LL5A gene and mouse LI5a gene in silico. Int. J. Oncol. 23: 1477-1483.
2. Katoh, M. and Katoh, M. 2004. Germ-line mutation of Foxn5 gene in mouse lineage. Int. J. Mol. Med. 14: 463-467.
3. Katoh, M. and Katoh, M. 2004. Identification and characterization of TMEM24 family genes in silico. Int. J. Oncol. 25: 759-764.
4. Liu, Y., Shete, S., Hosking, F.J., Robertson, L.B., Bondy, M.L. and Houlston, R.S. 2010. New insights into susceptibility to glioma. Arch. Neurol. 67: 275-278.
5. Liu, Y., Shete, S., Hosking, F., Robertson, L., Houlston, R. and Bondy, M. 2010. Genetic advances in glioma: susceptibility genes and networks. Curr. Opin. Genet. Dev. 20: 239-244.
6. Zhou, Q.L., Jiang, Z.Y., Mabardy, A.S., Del Campo, C.M., Lambright, D.G., Holik, J., Fogarty, K.E., Straubhaar, J., Nicoloro, S., Chawla, A. and Czech, M.P. 2010. A novel Pleckstrin Homology domain containing protein enhances Insulin-stimulated Akt phosphorylation and GLUT4 translocation in adipocytes. J Biol Chem. 285: 27581-27589.

CHROMOSOMAL LOCATION

Genetic locus: PHLDB1 (human) mapping to 11q23.3.

PRODUCT

PHLDB1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PHLDB1 shRNA Plasmid (h): sc-97072-SH and PHLDB1 shRNA (h) Lentiviral Particles: sc-97072-V as alternate gene silencing products.

For independent verification of PHLDB1 (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-97072A, sc-97072B and sc-97072C.

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

PHLDB1 siRNA (h) is recommended for the inhibition of PHLDB1 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 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 PHLDB1 gene expression knockdown using RT-PCR Primer: PHLDB1 (h)-PR: sc-97072-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.