

PIPKH siRNA (m): sc-152269

BACKGROUND

PIPKH, also known as PIP5K1 (phosphatidylinositol-4-phosphate 5-kinase-like 1), is a 394 amino acid phosphoinositide kinase-like protein that contains one PIPK domain. Although PIPKH lacks intrinsic lipid kinase activity, it associates with type I PIPKs and may play a role in localization of PIPK activity. Encoded by a gene that maps to human chromosome 9q34.11, PIPKH localizes to cytoplasm, specifically to large cytoplasmic vesicular structures, and exists as two alternatively spliced isoforms. Highly expressed in brain and testis, PIPKH is also expressed at very low levels in heart, spleen, lung, liver, skeletal muscle and kidney. PIPKH heterodimerizes with other type I phosphatidylinositol-4-phosphate 5-kinases, and may function as a scaffold to localize and regulate kinases to specific cell compartments. Overexpression of PIPKH may suppress cell proliferation and migration in human gastric cancer cells and may also inhibit cervical cancer formation.

REFERENCES

1. Chang, J.D., Field, S.J., Rameh, L.E., Carpenter, C.L. and Cantley, L.C. 2004. Identification and characterization of a phosphoinositide phosphate kinase homolog. *J. Biol. Chem.* 279: 11672-11679.
2. Wang, L., Gao, X., Gao, P., Deng, W., Yu, P., Ma, J., Guo, J., Wang, X., Cheng, H., Zhang, C., Yu, C., Ma, X., Lv, B., Lu, Y., Shi, T. and Ma, D. 2006. Cell-based screening and validation of human novel genes associated with cell viability. *J. Biomol. Screen.* 11: 369-376.
3. Vicinanza, M., D'Angelo, G., Di Campli, A. and De Matteis, M.A. 2008. Function and dysfunction of the PI system in membrane trafficking. *EMBO J.* 27: 2457-2470.
4. Onken, M.D., Worley, L.A., Long, M.D., Duan, S., Council, M.L., Bowcock, A.M. and Harbour, J.W. 2008. Oncogenic mutations in GNAQ occur early in uveal melanoma. *Invest. Ophthalmol. Vis. Sci.* 49: 5230-5234.
5. Dozmorov, M., Wu, W., Chakrabarty, K., Booth, J.L., Hurst, R.E., Coggeshall, K.M. and Metcalf, J.P. 2009. Gene expression profiling of human alveolar macrophages infected by *B. anthracis* spores demonstrates TNF- α and NF κ B are key components of the innate immune response to the pathogen. *BMC Infect. Dis.* 9: 152.
6. Shi, L., Wang, K., Zhao, M., Yuan, X. and Huang, C. 2010. Overexpression of PIP5K1L suppresses the growth of human cervical cancer cells *in vitro* and *in vivo*. *Cell Biol. Int.* 34: 309-315.
7. Shi, L., Zhao, M., Luo, Q., Ma, Y.M., Zhong, J.L., Yuan, X.H. and Huang, C.Z. 2010. Overexpression of PIP5K1L suppresses cell proliferation and migration in human gastric cancer cells. *Mol. Biol. Rep.* 37: 2189-2198.
8. Shen, L., Liu, Z., Tu, Y., Xu, L., Sun, X. and Wu, S. 2010. Regulation of MMP-2 expression and activity by β -1,3-N-acetylglucosaminyltransferase-8 in AGS gastric cancer cells. *Mol. Biol. Rep.* 38: 1541-1550.

CHROMOSOMAL LOCATION

Genetic locus: Pip5k1l (mouse) mapping to 2 B.

RESEARCH USE

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

PRODUCT

PIPKH 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PIPKH shRNA Plasmid (m): sc-152269-SH and PIPKH shRNA (m) Lentiviral Particles: sc-152269-V as alternate gene silencing products.

For independent verification of PIPKH (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-152269A, sc-152269B and sc-152269C.

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

APPLICATIONS

PIPKH siRNA (m) is recommended for the inhibition of PIPKH 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 μ M in 66 μ 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 PIPKH gene expression knockdown using RT-PCR Primer: PIPKH (m)-PR: sc-152269-PR (20 μ l). 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.