

PDZK2 siRNA (m): sc-76103

BACKGROUND

The eukaryotic PDZ domain is a multifunctional protein-protein interacting motif that is found in a variety of proteins and is involved in both the clustering of signaling molecules and the organization of protein networks. PDZK2, also known as PDZD3 (PDZ domain containing 3), IKEPP or NHERF4, is a 571 amino acid protein that localizes to both the cytoplasm and the cell membrane and contains four PDZ domains. Expressed in kidney and in the gastrointestinal tract, PDZK2 functions as a regulatory protein that interacts with GC-C and, via this interaction, negatively regulates the heat-stable enterotoxin-mediated activation of GC-C. PDZK2 exists as multiple alternatively spliced isoforms that are encoded by a gene which maps to human chromosome 11, which houses over 1,400 genes and comprises nearly 4% of the human genome. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are associated with defects in genes that maps to chromosome 11.

REFERENCES

1. Scott, R.O., et al. 2002. A novel PDZ protein regulates the activity of guanylyl cyclase C, the heat-stable enterotoxin receptor. *J. Biol. Chem.* 277: 22934-22941.
2. Vaandrager, A.B. 2002. Structure and function of the heat-stable enterotoxin receptor/guanylyl cyclase C. *Mol. Cell. Biochem.* 230: 73-83.
3. Hegedüs, T., et al. 2003. C-terminal phosphorylation of MRP2 modulates its interaction with PDZ proteins. *Biochem. Biophys. Res. Commun.* 302: 454-461.
4. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 607146. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Zachos, N.C., et al. 2008. Elevated intracellular calcium stimulates NHE3 activity by an IKEPP (NHERF4) dependent mechanism. *Cell. Physiol. Biochem.* 22: 693-704.

CHROMOSOMAL LOCATION

Genetic locus: Pdzd3 (mouse) mapping to 9 A5.2.

PRODUCT

PDZK2 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 PDZK2 shRNA Plasmid (m): sc-76103-SH and PDZK2 shRNA (m) Lentiviral Particles: sc-76103-V as alternate gene silencing products.

For independent verification of PDZK2 (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-76103A, sc-76103B and sc-76103C.

PROTOCOLS

See our web site at 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 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

PDZK2 siRNA (m) is recommended for the inhibition of PDZK2 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 PDZK2 gene expression knockdown using RT-PCR Primer: PDZK2 (m)-PR: sc-76103-PR (20 μ 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.