SANTA CRUZ BIOTECHNOLOGY, INC.

VIPAR siRNA (h): sc-92099

BACKGROUND

VIPAR (VPS33B interacting protein, apical-basolateral polarity regulator), also known as SPE39 or VPS16B, is a 493 amino acid protein that belongs to the VIPAR family and is involved in lysosomal trafficking and intracellular sorting. Existing as two alternatively spliced isoforms, VIPAR localizes to endosome and associates a complex that influences intracellular vesicle docking, which is known as the homotypic fusion and vacuole protein sorting (HOPS) complex. VIPAR may stabilize apical membrane proteins via the Rab 11A recycling pathway, indicating a role in epithelial polarization. Also implicated in transcriptional regulation of E-cadherin, VIPAR is encoded by a gene that maps to human chromosome 14q24.3. Defects in the gene encoding VIPAR gene are associated with an autosomal recessive disorder known as arthrogryposis-renal dysfunction-cholestasis syndrome type 2 (ARCS2).

REFERENCES

1. Zhu, G.D., et al. 2003. The *Caenorhabditis elegans* spe-39 gene is required for intracellular membrane reorganization during spermatogenesis. Genetics 165: 145-157.
2. Heilig, R., et al. 2003. The DNA sequence and analysis of human chromosome 14. Nature 421: 601-607.
3. Ballif, B.A., et al. 2004. Phosphoproteomic analysis of the developing mouse brain. Mol. Cell. Proteomics 3: 1093-1101.
4. Zhu, G.D., et al. 2009. SPE-39 family proteins interact with the HOPS complex and function in lysosomal delivery. Mol. Biol. Cell 20: 1223-1240.
5. Cullinane, A.R., et al. 2010. Mutations in VIPAR cause an arthrogryposis, renal dysfunction and cholestasis syndrome phenotype with defects in epithelial polarization. Nat. Genet. 42: 303-312.
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CHROMOSOMAL LOCATION

Genetic locus: VIPAS39 (human) mapping to 14q24.3.

PRODUCT

VIPAR 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 VIPAR shRNA Plasmid (h): sc-92099-SH and VIPAR shRNA (h) Lentiviral Particles: sc-92099-V as alternate gene silencing products.

For independent verification of VIPAR (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-92099A, sc-92099B and sc-92099C.

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 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

VIPAR siRNA (h) is recommended for the inhibition of VIPAR 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 VIPAR gene expression knockdown using RT-PCR Primer: VIPAR (h)-PR: sc-92099-PR (20 µl). 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.