SANTA CRUZ BIOTECHNOLOGY, INC.

INPP5E siRNA (h): sc-92496

BACKGROUND

INPP5E (inositol polyphosphate 5-phosphatase), also known as hosphatidylinositol polyphosphate 5-phosphatase type IV, is a 644 amino acid peripheral membrane protein associated with Golgi stacks. Belonging to the inositol-1,4,5-trisphosphate 5-phosphatase type IV family, INPP5E converts phosphatidylinositol-3,4,5-triphosphate (PtdIns 3,4,5-P3) to PtdIns-P2. While inactive towards water soluble inositol phosphates, the activity of INPP5E is specific for lipid substrates. INPP5E becomes phosphorylated upon DNA damage and is expressed in brain, heart, pancreas, testis and spleen. Defects in INPP5E are the cause of Joubert syndrome type 1 (JBTS1), a disorder presenting with cerebellar ataxia, oculomotor apraxia, hypotonia, neonatal breathing abnormalities and psychomotor delay. In addition, mutations in the INPP5E gene may lead to mental retardation-truncal obesity-retinal dystrophy-micropenis (MORMS), an autosomal recessive disorder characterized by moderate mental retardation, truncal obesity, congenital non-progressive retinal dystrophy, and micropenis in males.

REFERENCES

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2. Kisseleva, M.V., et al. 2000. The isolation and characterization of a cDNA encoding phospholipid-specific inositol polyphosphate 5-phosphatase. J. Biol. Chem. 275: 20110-20116.
3. Kong, A.M., et al. 2000. Cloning and characterization of a 72-kDa inositol-polyphosphate 5-phosphatase localized to the Golgi network. J. Biol. Chem. 275: 24052-24064.
5. Matsuoka, S., et al. 2007. ATM and ATR substrate analysis reveals extensive protein networks responsive to DNA damage. Science 316: 1160-1166.
6. Jacoby, M., et al. 2009. INPP5E mutations cause primary cilium signaling defects, ciliary instability and ciliopathies in human and mouse. Nat. Genet. 41: 1027-1031.
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CHROMOSOMAL LOCATION

Genetic locus: INPP5E (human) mapping to 9q34.3.

PRODUCT

INPP5E 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 INPP5E shRNA Plasmid (h): sc-92496-SH and INPP5E shRNA (h) Lentiviral Particles: sc-92496-V as alternate gene silencing products.

For independent verification of INPP5E (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-92496A, sc-92496B and sc-92496C.

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

INPP5E siRNA (h) is recommended for the inhibition of INPP5E 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 INPP5E gene expression knockdown using RT-PCR Primer: INPP5E (h)-PR: sc-92496-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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.