SANTA CRUZ BIOTECHNOLOGY, INC.

INPP1 siRNA (m): sc-146240

BACKGROUND

Inositol and phosphatidylinositol phosphates are important for numerous cel-lular processes, including neuronal survival and signal transductions from growth factors, neurotransmitters and G protein-coupled receptors. INPP1 (inositol polyphosphate 1-phosphatase) is a 399 amino acid protein that is ubiquitously expressed, with highest levels in pancreas and kidney. Belonging to the inositol monophosphatase family, INPP1 is involved in the phosphatidylinositol signaling pathway. INPP1 removes the phosphate group at position one of the inositol ring from the polyphosphates inositol 1,4-bisphosphate and inositol 1,3,4-trisphophosphate. It is suggested that ovexpressed INPP1 reduces ANP (atrial natriuretic peptide) and MLC2 (myosin light chain 2) responses associated with contraction-induced hypertrophy. Defects of INPP1 may be associated with autism and manic-depressive illness.

REFERENCES

1. Okabe, I., et al. 1995. Identification and chromosomal mapping of the mouse inositol polyphosphate 1-phosphatase gene. Genomics 30: 358-360.
2. Steen, V.M., et al. 1998. The polymorphic inositol polyphosphate 1-phosphatase gene as a candidate for pharmacogenetic prediction of lithium-responsive manic-depressive illness. Pharmacogenetics 8: 259-268.
3. Løvlie, R., et al. 1999. Genomic structure and sequence analysis of a human inositol polyphosphate 1-phosphatase gene (INPP1). Pharmacogenetics 9: 517-528.
4. Li, S.R., et al. 2000. Transcription of the inositol polyphosphate 1-phosphatase gene (INPP1) is upregulated in human colorectal cancer. Mol. Carcinog. 27: 322-329.
5. Woodcock, E.A., et al. 2002. Inositol polyphosphate 1-phosphatase is a novel antihypertrophic factor. J. Biol. Chem. 277: 22734-22742.
6. Serretti, A. 2002. Lithium long-term treatment in mood disorders: clinical and genetic predictors. Pharmacogenomics 3: 117-129.
7. Piccardi, M.P., et al. 2002. Manic-depressive illness: an association study with the inositol polyphosphate 1-phosphatase and serotonin transporter genes. Psychiatr. Genet. 12: 23-27.

CHROMOSOMAL LOCATION

Genetic locus: Inpp1 (mouse) mapping to 1 C1.1.

PRODUCT

INPP1 siRNA (m) is a pool of 2 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 INPP1 shRNA Plasmid (m): sc-146240-SH and INPP1 shRNA (m) Lentiviral Particles: sc-146240-V as alternate gene silencing products.

For independent verification of INPP1 (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-146240A and sc-146240B.

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

INPP1 siRNA (m) is recommended for the inhibition of INPP1 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 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.

GENE EXPRESSION MONITORING

INPP1 (F-8): sc-271687 is recommended as a control antibody for monitoring of INPP1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor INPP1 gene expression knockdown using RT-PCR Primer: INPP1 (m)-PR: sc-146240-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.