SANTA CRUZ BIOTECHNOLOGY, INC.

ITPK1 siRNA (h): sc-92365

BACKGROUND

Intracellular calcium concentrations are regulated by a family of inositol phosphates, which act as second messengers in the calcium cell signaling pathway. ITPK1 (inositol 1,3,4-triphosphate 5/6 kinase), also known as ITRPK1, is a 414 amino acid monomer that belongs to the ITPK1 family and exists as two alternatively spliced isoforms. Widely expressed, ITPK1 is found at highest levels in brain, followed by heart, skeletal muscle, kidney, pancreas, liver, placenta and lung. ITPK1 contains one ATP-grasp domain and has been found to phosphorylate various inositol polyphosphates and modify TNF-α-induced apoptosis. The gene encoding ITPK1 maps to human chromosome 14, which houses over 700 genes and comprises nearly 3.5% of the human genome.

REFERENCES

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2. Yang, X. and Shears, S.B. 2000. Multitasking in signal transduction by a promiscuous human Ins(3,4,5,6)P(4) 1-kinase/Ins(1,3,4)P(3) 5/6-kinase. Biochem. J. 351: 551-555.
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5. Sun, Y., Wilson, M.P. and Majerus, P.W. 2002. Inositol 1,3,4-trisphosphate 5/6-kinase associates with the COP9 signalosome by binding to CSN1. J. Biol. Chem. 277: 45759-45764.
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CHROMOSOMAL LOCATION

Genetic locus: ITPK1 (human) mapping to 14q32.12.

PRODUCT

ITPK1 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 ITPK1 shRNA Plasmid (h): sc-92365-SH and ITPK1 shRNA (h) Lentiviral Particles: sc-92365-V as alternate gene silencing products.

For independent verification of ITPK1 (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-92365A, sc-92365B and sc-92365C.

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

ITPK1 siRNA (h) is recommended for the inhibition of ITPK1 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 ITPK1 gene expression knockdown using RT-PCR Primer: ITPK1 (h)-PR: sc-92365-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.