SANTA CRUZ BIOTECHNOLOGY, INC.

IPMK siRNA (h): sc-90569

BACKGROUND

Inositol polyphosphate multikinase (IPMK) belongs to the inositol phosphokinase (IPK) family and is characterized as having a broad substrate specificity. However, IPMK displays a preference for inositol-1,4,5-trisphosphate (Ins(1,4,5)P3) and inositol 1,3,4,6-tetrakisphosphate (Ins(1,3,4,6)P4). IPMK is ubiquitously expressed with the highest expression in skeletal muscle, liver, placenta, lung, peripheral blood leukocytes, kidney, spleen and colon. IPMK is localized to the nucleus, where it may play a role in the regulation of calcium release from intracellular stores and has been implicated as a drug target for cancer therapies. The gene encoding IPMK maps to human chromosome 10q21.1, which contains over 800 genes. Notably, disorders linked to genes on chromosome 10 include Cowden syndrome, Cockayne syndrome and Tetrahydrobiopterin deficiency.

REFERENCES

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2. Thöny, B., et al. 1994. Chromosomal location of two human genes encoding tetrahydrobiopterin-metabolizing enzymes: 6-pyruvoyl-tetrahydropterin synthase maps to 11q22.3-q23.3, and pterin-4 α-carbinolamine dehydratase maps to 10q22. Genomics 19: 365-368.
3. Nalaskowski, M.M., et al. 2002. The human homologue of yeast ArgRIII protein is an inositol phosphate multikinase with predominantly nuclear localization. Biochem. J. 366: 549-556.
4. Nalaskowski, M.M. and Mayr, G.W. 2004. The families of kinases removing the Ca^{2+} releasing second messenger Ins(1,4,5)P3. Curr. Mol. Med. 4: 277-290.
5. Rahgozar, M., et al. 2004. Angiotensin II facilitates autoregulation in the perfused mouse kidney: an optimized *in vitro* model for assessment of renal vascular and tubular function. Nephrology 9: 288-296.
6. Chang, S.C. and Majerus, P.W. 2006. Inositol polyphosphate multikinase regulates inositol 1,4,5,6-tetrakisphosphate. Biochem. Biophys. Res. Commun. 339: 209-216.

CHROMOSOMAL LOCATION

Genetic locus: IPMK (human) mapping to 10q21.1.

PRODUCT

IPMK 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 IPMK shRNA Plasmid (h): sc-90569-SH and IPMK shRNA (h) Lentiviral Particles: sc-90569-V as alternate gene silencing products.

For independent verification of IPMK (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-90569A, sc-90569B and sc-90569C.

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

IPMK siRNA (h) is recommended for the inhibition of IPMK 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 IPMK gene expression knockdown using RT-PCR Primer: IPMK (h)-PR: sc-90569-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.