SANTA CRUZ BIOTECHNOLOGY, INC.

PANK4 siRNA (m): sc-76047

BACKGROUND

Coenzyme A (CoA) is an important coenzyme involved in the synthesis and oxidation of fatty acids, as well as the oxidation of pyruvate in the citric acid (Krebs) cycle. The pantothenate kinase (PANK) family of proteins catalyzes the first step in coenzyme A biosynthesis. Pantothenate kinase 4 (PANK4) is a 773 amino acid member of the pantothenate kinase family that plays a role in the physiological regulation of the intracellular CoA concentration. Localized to the cytoplasm, PANK4 is regulated by feedback inhibition by CoA and its thioesters. PANK4 transfers a phosphate from ATP to pantothenate (vitamin B_5), resulting in formation of 4'-phosphopantothenate. Like its closely related family members, PANK1, PANK2 and PANK3, PANK4 is present in all tissues though its highest expression is in skeletal muscle. Pantothenate-Kinase-associated-neurodegeneration (PKAN) results from mutations in the gene encoding PANK2, the only mitochondria-targeted human PANK.

REFERENCES

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PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Pank4 (mouse) mapping to 4 E2.

PRODUCT

PANK4 siRNA (m) 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 PANK4 shRNA Plasmid (m): sc-76047-SH and PANK4 shRNA (m) Lentiviral Particles: sc-76047-V as alternate gene silencing products.

For independent verification of PANK4 (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-76047A, sc-76047B and sc-76047C.

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

PANK4 siRNA (m) is recommended for the inhibition of PANK4 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PANK4 gene expression knockdown using RT-PCR Primer: PANK4 (m)-PR: sc-76047-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.