SANTA CRUZ BIOTECHNOLOGY, INC.

ChoKB siRNA (m): sc-142329

BACKGROUND

The major pathway for the biosynthesis of phosphatidylcholine occurs via the CDP-choline pathway. Choline kinase, the initial enzyme in the sequence, plays a role in cell growth proliferation. A related protein, ChoKB (also, known as choline kinase β), is a 395 amino acid enzyme that catalyzes the phosphorylation of choline by ATP in the presence of magnesium, thereby yielding phosphocholine and ADP. Like all choline kinases, ChoKB possesses ethanoalamine kinase activity and catalyzes the phosphorylation of ethanolamine. The gene encoding ChoKB is located less than 1 kb upstream of the CPT1B gene, suggesting that the ChoKB gene may regulate transcription CPT1B. In mice, mutations and/or deletions in the gene encoding ChoKB are the cause of hindlimb muscular dystrophy and neonatal bone deformity.

REFERENCES

1. Ishidate, K. 1997. Choline/ethanolamine kinase from mammalian tissues. Biochim. Biophys. Acta 1348: 70-78.
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3. Yamazaki, N., et al. 2000. Novel expression of equivocal messages containing both regions of choline/ethanolamine kinase and muscle type carnitine palmitoyltransferase I. J. Biol. Chem. 275: 31739-31746.
4. Aoyama, C., et al. 2000. Structure and characterization of the genes for murine choline/ethanolamine kinase isozymes α and β. J. Lipid Res. 41: 452-464.
5. Sher, R.B., et al. 2006. A rostrocaudal muscular dystrophy caused by a defect in choline kinase β, the first enzyme in phosphatidylcholine biosynthesis. J. Biol. Chem. 281: 4938-4948.
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CHROMOSOMAL LOCATION

Genetic locus: Chkb (mouse) mapping to 15 E3.

PRODUCT

ChoKB 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 ChoKB shRNA Plasmid (m): sc-142329-SH and ChoKB shRNA (m) Lentiviral Particles: sc-142329-V as alternate gene silencing products.

For independent verification of ChoKB (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-142329A, sc-142329B and sc-142329C.

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

ChoKB siRNA (m) is recommended for the inhibition of ChoKB 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

ChoKB (G-12): sc-398957 is recommended as a control antibody for monitoring of ChoKB 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 ChoKB gene expression knockdown using RT-PCR Primer: ChoKB (m)-PR: sc-142329-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.