SANTA CRUZ BIOTECHNOLOGY, INC.

ADCK5 siRNA (m): sc-140877

BACKGROUND

CABC1 (chaperone activity of bc1 complex-like), also known as COQ8 or ADCK3 (aarF domain-containing protein kinase 3) is a 647 amino acid mitochondrial protein that belongs to the ADCK protein kinase. Ubiquitously expressed with higher expression in heart and skeletal muscle, CABC1 is thought to function as a chaperone in the proper assembly of protein complexes found in the respiratory chain. CABC1 expression is induced both in response to DNA damage and by the tumor suppressor p53. When CABC1 expression is inhibited, p53-induced apoptosis is partially suppressed, suggesting a possible role for CABC1 in tumor suppression. Mutations in the gene encoding CABC1 may be implicated in ubiquinone deficiency which can lead to cerebellar ataxia and seizures. Four isoforms of CABC1 exist due to alternative splicing events. Other members of the ADCK protein kinase family include ADCK1, ADCK2, ADCK4 and ADCK5.

REFERENCES

1. Iiizumi, M., et al. 2002. Isolation of a novel gene, CABC1, encoding a mitochondrial protein that is highly homologous to yeast activity of bc1 complex. Cancer Res. 62: 1246-1250.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606980. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Wan, D., et al. 2004. Large-scale cDNA transfection screening for genes related to cancer development and progression. Proc. Natl. Acad. Sci. USA 101: 15724-15729.
4. Mollet, J., et al. 2008. CABC1 gene mutations cause ubiquinone deficiency with cerebellar ataxia and seizures. Am. J. Hum. Genet. 82: 623-630.
5. Lagier-Tourenne, C., et al. 2008. ADCK3, an ancestral kinase, is mutated in a form of recessive ataxia associated with coenzyme Q10 deficiency. Am. J. Hum. Genet. 82: 661-672.

CHROMOSOMAL LOCATION

Genetic locus: Adck5 (mouse) mapping to 15 D3.

PRODUCT

ADCK5 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 ADCK5 shRNA Plasmid (m): sc-140877-SH and ADCK5 shRNA (m) Lentiviral Particles: sc-140877-V as alternate gene silencing products.

For independent verification of ADCK5 (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-140877A, sc-140877B and sc-140877C.

PROTOCOLS

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

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

ADCK5 siRNA (m) is recommended for the inhibition of ADCK5 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 ADCK5 gene expression knockdown using RT-PCR Primer: ADCK5 (m)-PR: sc-140877-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.