SANTA CRUZ BIOTECHNOLOGY, INC.

SUCLG1 siRNA (h): sc-76600

BACKGROUND

SUCLG1, also known as G-ALPHA or SCS-α, is a 346 amino acid protein belonging to the succinate/malate CoA ligase α subunit family. Localized to the mitochondrion, SUCLG1 forms a heterodimer with SUCLA2. SUCLG1 is active in the tricarboxylic acid cycle of carbohydrate metabolism by catalyzing the reaction of GTP, succinate and CoA to form GDP, a phosphate and succinyl-CoA. Defects in SUCLG1 are a cause of fatal infantile lactic acidosis. Fatal infantile lactic acidosis caused by defects in SUCLG1 has been found to be very severe with onset of lactic acidosis within the first day of life and a early death.

REFERENCES

1. Fraser, M.E., et al. 2000. Phosphorylated and dephosphorylated structures of pig heart, GTP-specific succinyl-CoA synthetase. J. Mol. Biol. 299: 1325-1339.
2. Lambeth, D.O., et al. 2004. Expression of two succinyl-CoA synthetases with different nucleotide specificities in mammalian tissues. J. Biol. Chem. 279: 36621-36624.
3. Tsang, H.T., et al. 2006. A systematic analysis of human CHMP protein interactions: additional MIT domain-containing proteins bind to multiple components of the human ESCRT III complex. Genomics 88: 333-346.
4. Ostergaard, E., et al. 2007. Deficiency of the α subunit of succinate-coenzyme A ligase causes fatal infantile lactic acidosis with mitochondrial DNA depletion. Am. J. Hum. Genet. 81: 383-387.
5. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611224. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: SUCLG1 (human) mapping to 2p11.2.

PRODUCT

SUCLG1 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 SUCLG1 shRNA Plasmid (h): sc-76600-SH and SUCLG1 shRNA (h) Lentiviral Particles: sc-76600-V as alternate gene silencing products.

For independent verification of SUCLG1 (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-76600A, sc-76600B and sc-76600C.

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.

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

SUCLG1 siRNA (h) is recommended for the inhibition of SUCLG1 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 SUCLG1 gene expression knockdown using RT-PCR Primer: SUCLG1 (h)-PR: sc-76600-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.