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SANTA CRUZ BIOTECHNOLOGY, INC.

SUCLG2 siRNA (m): sc-153914

BACKGROUND

SUCLG2 (succinate-CoA ligase, GDP-forming, β subunit), also known as G-BETA, succinyl-CoA ligase [GDP-forming] subunit β, mitochondrial, GTP-specific succinyl-CoA synthetase subunit β, succinyl-CoA synthetase β-G chain or SCS-βG, is a 432 amino acid protein belonging to the succinate/malate CoA ligase β subunit family. SUCLG2 is widely expressed, localizes to mitochondria and contains one ATP-grasp domain. SUCLG2 dimerizes with SUCLG1 (succinyl-CoA synthetase) to form G-SCS, a GTP specific enzyme. SUCLG2 has an active role 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. The gene encoding SUCLG2 maps to human chromosome 3p14.1.

REFERENCES

1. Johnson, J.D., et al. 1998. Genetic evidence for the expression of ATP- and GTP-specific succinyl-CoA synthetases in multicellular eucaryotes. J. Biol. Chem. 273: 27580-27586.
2. Schiaffino, M.V., et al. 1999. Ocular albinism: evidence for a defect in an intracellular signal transduction system. Nat. Genet. 23: 108-112.
3. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 603922. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Fraser, M.E., et al. 2000. Phosphorylated and dephosphorylated structures of pig heart, GTP-specific succinyl-CoA synthetase. J. Mol. Biol. 299: 1325-1339.
5. Kowluru, A. 2001. Adenine and guanine nucleotide-specific succinyl-CoA synthetases in the clonal β-cell mitochondria: implications in the β-cell high-energy phosphate metabolism in relation to physiological Insulin secretion. Diabetologia 44: 89-94.
6. 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.

CHROMOSOMAL LOCATION

Genetic locus: Suclg2 (mouse) mapping to 6 D2.

PRODUCT

SUCLG2 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 SUCLG2 shRNA Plasmid (m): sc-153914-SH and SUCLG2 shRNA (m) Lentiviral Particles: sc-153914-V as alternate gene silencing products.

For independent verification of SUCLG2 (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-153914A, sc-153914B and sc-153914C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

SUCLG2 siRNA (m) is recommended for the inhibition of SUCLG2 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

SUCLG2 (A-2): sc-390818 is recommended as a control antibody for monitoring of SUCLG2 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 SUCLG2 gene expression knockdown using RT-PCR Primer: SUCLG2 (m)-PR: sc-153914-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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