SANTA CRUZ BIOTECHNOLOGY, INC.

# Csl siRNA (m): sc-142604

## BACKGROUND

Citrate synthase (CS) is a 466 amino acid mitochondrial matrix protein that functions as the first and rate-limiting enzyme of the tricarboxylic acid cycle. Essential in mitochondrial respiration and involved in the conversion of glucose to lipid, citrate synthase is found the great majority of cells that are capable of oxidative metabolism. The gene encoding citrate synthase maps to human chromosome 12q13.2, which is transcribed into two alternatively spliced variants designated CSa and CSb. Csl (citrate synthase like), is a 466 amino acid protein that shares high homology with citrate synthase and is encoded by a gene mapping to mouse chromosome 10 D1.

## REFERENCES


1. Craig, I. 1973. A procedure for the analysis of citrate synthase (E.C. 4.1.3.7) in somatic cell hybrids. Biochem. Genet. 9: 351-358.
2. Van Heyningen, V., Craig, I. and Bodmer, W. 1973. Genetic control of mitochondrial enzymes in human-mouse somatic cell hybrids. Nature 242: 509-512.
3. Wijnen, L.M., Grzeschik, K.H., Pearson, P.L. and Meera Khan, P. 1977. Direct assignment of citrate synthase (CS) gene to human chromosome 12 in man-mouse somatic cell hybrids. Hum. Genet. 39: 339-344.
4. Herbschleb-Voogt, E., Monteba-van Heuvel, M., Wijnen, L.M., Westerveld, A., Pearson, P.L. and Meera Khan, P. 1978. Chromosomal assignment and regional localization of CS, ENO2, GAPDH, LDHB, PEPB, and TPI in man-rodent cell hybrids. Cytogenet. Cell Genet. 22: 482-486.
5. Goldenthal, M.J., Marin-Garcia, J. and Ananthakrishnan, R. 1998. Cloning and molecular analysis of the human citrate synthase gene. Genome 41: 733-738.
6. Siu, P.M., Donley, D.A., Bryner, R.W. and Alway, S.E. 2003. Citrate synthase expression and enzyme activity after endurance training in cardiac and skeletal muscles. J. Appl. Physiol. 94: 555-560.
7. Schlichtholz, B., Turyn, J., Goyke, E., Biernacki, M., Jaskiewicz, K., Sledzinski, Z. and Swierczynski, J. 2005. Enhanced citrate synthase activity in human pancreatic cancer. Pancreas 30: 99-104.


## CHROMOSOMAL LOCATION

Genetic locus: Csl (mouse) mapping to 10 D1.

## PRODUCT

Csl 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 Csl shRNA Plasmid (m): sc-142604-SH and Csl shRNA (m) Lentiviral Particles: sc-142604-V as alternate gene silencing products.

For independent verification of Csl (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-142604A, sc-142604B and sc-142604C.

## 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

Csl siRNA (m) is recommended for the inhibition of Csl 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 Csl gene expression knockdown using RT-PCR Primer: Csl (m)-PR: sc-142604-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.