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# DLST siRNA (m): sc-143057

## BACKGROUND

The 2-oxoglutarate dehydrogenase complex catalyzes the overall conversion of 2-oxoglutarate to succinyl-CoA and CO<sub>2</sub>. The complex contains multiple copies of three enzymatic components: 2-oxoglutarate dehydrogenase (E1), dihydrolipoamide succinyltransferase (E2) and lipoamide dehydrogenase (E3). DLST (dihydrolipoyllysine-residue succinyltransferase component of 2-oxoglutarate dehydrogenase complex, mitochondrial), also known as DLTS or 2-oxoglutarate dehydrogenase complex component E2, is a 453 amino acid protein belonging to the 2-oxoacid dehydrogenase family. DLST covalently binds one lipoyl cofactor and participates in L-lysine degradation via the saccharopine pathway. Localized to the mitochondrion, DLST forms a 24-polypeptide structural core with octahedral symmetry. The gene encoding DLST maps to human chromosome 14q24.3 and mouse chromosome 12 D2.

## REFERENCES

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3. Kanamori, T., et al. 2003. Truncated product of the bifunctional DLST gene involved in biogenesis of the respiratory chain. *EMBO J.* 22: 2913-2923.
4. Habelhah, H., et al. 2004. Regulation of 2-oxoglutarate ( $\alpha$ -ketoglutarate) dehydrogenase stability by the RING finger ubiquitin ligase Siah. *J. Biol. Chem.* 279: 53782-53788.
5. Brown, A.M., et al. 2004. Substantial linkage disequilibrium across the dihydrolipoyl succinyltransferase gene region without Alzheimer's disease association. *Neurochem. Res.* 29: 629-635.
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7. Xu, G., et al. 2009. Global profiling of protease cleavage sites by chemoselective labeling of protein N-termini. *Proc. Natl. Acad. Sci. USA* 106: 19310-19315.
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## CHROMOSOMAL LOCATION

Genetic locus: Dlst (mouse) mapping to 12 D2.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

DLST siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DLST shRNA Plasmid (m): sc-143057-SH and DLST shRNA (m) Lentiviral Particles: sc-143057-V as alternate gene silencing 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

DLST siRNA (m) is recommended for the inhibition of DLST 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  $\mu$ M in 66  $\mu$ l. 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 DLST gene expression knockdown using RT-PCR Primer: DLST (m)-PR: sc-143057-PR (20  $\mu$ l). 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.