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Lieferung & Zahlungsart

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- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
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SANTA CRUZ BIOTECHNOLOGY, INC.

sarcosine dehydrogenase siRNA (m): sc-153223

BACKGROUND

Sarcosine dehydrogenase, also known as SARDH, SAR, SDH, SARD or DMGDHL1, is a 918 amino acid protein that localizes to the mitochondrial matrix and is involved in the amine and polyamine degradation pathway. Using FAD as a cofactor, sarcosine dehydrogenase catalyzes the oxidative demethylation of sarcosine, a reaction that results in the formation of formaldehyde and glycine from sarcosine. Defects in the gene encoding sarcosine dehydrogenase are associated with sarcosinemia, a relatively benign metabolic disorder characterized by excess sarcosine in plasma and urine. The gene encoding sarcosine dehydrogenase maps to human chromosome 9, which houses over 900 genes and comprises nearly 4% of the human genome.

REFERENCES

1. Porter, D.H., et al. 1985. Enzymatic properties of dimethylglycine dehydrogenase and sarcosine dehydrogenase from rat liver. Arch. Biochem. Biophys. 243: 396-407.
2. London, R.E., et al. 1987. Metabolism of excess methionine in the liver of intact rat: an *in vivo* 2H NMR study. Biochemistry 26: 7166-7172.
3. Harding, C.O., et al. 1992. SAR: a genetic mouse model for human sarcosinemia generated by ethylnitrosourea mutagenesis. Proc. Natl. Acad. Sci. USA 89: 2644-2648.
4. Brunialti, A.L., et al. 1996. The mouse mutation sarcosinemia (SAR) maps to chromosome 2 in a region homologous to human 9q33-q34. Genomics 36: 182-184.
5. Bergeron, F., et al. 1998. Molecular cloning and tissue distribution of rat sarcosine dehydrogenase. Eur. J. Biochem. 257: 556-561.
6. Eschenbrenner, M. and Jorns, M.S. 1999. Cloning and mapping of the cDNA for human sarcosine dehydrogenase, a flavoenzyme defective in patients with sarcosinemia. Genomics 59: 300-308.

CHROMOSOMAL LOCATION

Genetic locus: Sardh (mouse) mapping to 2 A3.

PRODUCT

sarcosine dehydrogenase 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 sarcosine dehydrogenase shRNA Plasmid (m): sc-153223-SH and sarcosine dehydrogenase shRNA (m) Lentiviral Particles: sc-153223-V as alternate gene silencing products.

For independent verification of sarcosine dehydrogenase (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-153223A, sc-153223B and sc-153223C.

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

sarcosine dehydrogenase siRNA (m) is recommended for the inhibition of sarcosine dehydrogenase 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 sarcosine dehydrogenase gene expression knockdown using RT-PCR Primer: sarcosine dehydrogenase (m)-PR: sc-153223-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.