SANTA CRUZ BIOTECHNOLOGY, INC.

HARS2 siRNA (m): sc-145897

BACKGROUND

The fidelity of protein synthesis requires efficient discrimination of amino acid substrates by aminoacyl-tRNA synthetases. Aminoacyl-tRNA synthetases function to catalyze the aminoacylation of tRNAs by their corresponding amino acids, thus linking amino acids with tRNA-contained nucleotide triplets. HARS2 (histidyl-tRNA synthetase 2), also known as HO3, HARSL or HARSR, is a 506 amino acid protein that localizes to the mitochondrial matrix and belongs to the class II aminoacyl-tRNA synthetase family. Highly expressed in kidney, heart and skeletal muscle with lower levels present in liver and brain, HARS2 functions in the ATP-dependent synthesis of histidyl-transfer RNA, playing an accessory role in the regulation of protein synthesis. The gene encoding HARS2 maps to human chromosome 5q31.3, which contains 181 million base pairs and comprises nearly 6% of the human genome.

REFERENCES

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3. O'Hanlon, T.P., Raben, N. and Miller, F.W. 1995. A novel gene oriented in a head-to-head configuration with the human histidyl-tRNA synthetase (HRS) gene encodes an mRNA that predicts a polypeptide homologous to HRS. Biochem. Biophys. Res. Commun. 210: 556-566.
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CHROMOSOMAL LOCATION

Genetic locus: Hars2 (mouse) mapping to 18 B2.

PRODUCT

HARS2 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 HARS2 shRNA Plasmid (m): sc-145897-SH and HARS2 shRNA (m) Lentiviral Particles: sc-145897-V as alternate gene silencing products.

For independent verification of HARS2 (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-145897A, sc-145897B and sc-145897C.

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

HARS2 siRNA (m) is recommended for the inhibition of HARS2 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 HARS2 gene expression knockdown using RT-PCR Primer: HARS2 (m)-PR: sc-145897-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.