SANTA CRUZ BIOTECHNOLOGY, INC.

AdSS1 siRNA (m): sc-140889

BACKGROUND

Adenylosuccinate synthetase isozyme 1 (AdSS1), also known as IMP—aspartate ligase 1, is a cytoplasmic homodimer belonging to the adenylosuccinate synthetase family. The gene coding for the protein maps against chromosome 14q32.33. AdSS1 catalyses the committer step in the biosynthesis of AMP. It is a target for antibiotics, herbicides and antitumor drugs due to its importance in purine biosynthesis. AdSS1 is upregulated during muscle development and is highly expressed in muscle tissues such as skeletal muscle, tongue, heart and esophagus.

REFERENCES

1. Guicherit, O.M., et al. 1994. Amplification of an adenylosuccinate synthetase gene in alanosine-resistant murine T-lymphoma cells. Molecular cloning of a cDNA encoding the "non-muscle" isozyme. J. Biol. Chem. 269: 4488-4496.
2. Lewis, A.L., et al. 1996. Structure and expression of the murine muscle adenylosuccinate synthetase gene. J. Biol. Chem. 271: 22647-22656.
3. Wang, W., et al. 1997. Relationship of conserved residues in the IMP binding site to substrate recognition and catalysis in *Escherichia coli* adenylosuccinate synthetase. J. Biol. Chem. 272: 16911-16916.
4. Lewis, A.L., et al. 1999. Combinatorial interactions regulate cardiac expression of the murine adenylosuccinate synthetase 1 gene. J. Biol. Chem. 274: 14188-14197.
5. Xia, Y., et al. 2000. Electrical stimulation of neonatal cardiac myocytes activates the NFAT3 and GATA4 pathways and up-regulates the adenylosuccinate synthetase 1 gene. J. Biol. Chem. 275: 1855-1863.

CHROMOSOMAL LOCATION

Genetic locus: Adssl1 (mouse) mapping to 12 F1.

PRODUCT

AdSS1 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 AdSS1 shRNA Plasmid (m): sc-140889-SH and AdSS1 shRNA (m) Lentiviral Particles: sc-140889-V as alternate gene silencing products.

For independent verification of AdSS1 (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-140889A, sc-140889B and sc-140889C.

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.

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

AdSS1 siRNA (m) is recommended for the inhibition of AdSS1 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

AdSS1 (G-9): sc-166401 is recommended as a control antibody for monitoring of AdSS1 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 AdSS1 gene expression knockdown using RT-PCR Primer: AdSS1 (m)-PR: sc-140889-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.