SANTA CRUZ BIOTECHNOLOGY, INC.

AdSS2 siRNA (h): sc-44960

BACKGROUND

Cellular signal transduction pathways are initiated by the binding of external signals, such as steroids, charged-small molecules or proteins, to their respective receptors. These signaling pathways are important in eliciting a cellular response to external stimuli. Proteins involved in signaling pathways may have several different regulatory and/or enzymatic functions, including recruitment, activation, phosphorylation, maintenance and transport. Mutations in these pathways may be implicated in a variety of diseases, suggesting that these intermediary proteins may be potential therapeutic targets. Adenylosuccinate synthetase 2 (AdSS2 or AMPSase 2) is important in the AMP biosynthesis pathway (purine nucleotide biosynthesis). It is a cytoplasmic protein that belongs to the adenylosuccinate synthetase family of proteins. AdSS2 can form homodimers.

REFERENCES

1. Powell, S.M., et al. 1992. Cloning and characterization of the cDNA encoding human adenylosuccinate synthetase. FEBS Lett. 303: 4-10.
2. Xia, Y., et al. 2000. Electrical stimulation of neonatal cardiac myocytes activates the NFAT3 and GATA-4 pathways and upregulates the adenylosuccinate synthetase 1 gene. J. Biol. Chem. 275: 1855-1863.
3. Iancu, C.V., et al. 2002. Feedback inhibition and product complexes of recombinant mouse muscle adenylosuccinate synthetase. J. Biol. Chem. 277: 40536-40543.
4. Wen, H.Y., et al. 2002. The adenylosuccinate synthetase 1 gene is activated in the hypertrophied heart. J. Cell. Mol. Med. 6: 235-243.
5. Mahnke, D.K., et al. 2005. Calcium activates erythrocyte AMP deaminase [isoform E (AMPD3)] through a protein-protein interaction between calmodulin and the N-terminal domain of the AMPD3 polypeptide. Biochemistry 44: 5551-5559.
6. SWISS-PROT/TrEMBL (P30520). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

CHROMOSOMAL LOCATION

Genetic locus: ADSS (human) mapping to 1q44.

PRODUCT

AdSS2 siRNA (h) 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 AdSS2 shRNA Plasmid (h): sc-44960-SH and AdSS2 shRNA (h) Lentiviral Particles: sc-44960-V as alternate gene silencing products.

For independent verification of AdSS2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-44960A, sc-44960B and sc-44960C.

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

AdSS2 siRNA (h) is recommended for the inhibition of AdSS2 expression in human 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 AdSS2 gene expression knockdown using RT-PCR Primer: AdSS2 (h)-PR: sc-44960-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.