SANTA CRUZ BIOTECHNOLOGY, INC.

atrophin-2 siRNA (m): sc-105110

BACKGROUND

Atrophin-2 (arginine-glutamic acid dipeptide repeats protein, atrophin-1-like protein) is a 1,566 amino acid protein encoded by the human gene RERE. Atrophin-2 is a member of the atrophin family of arginine-glutamic acid (RE) dipeptide repeat-containing proteins and contains one BAH domain, one ELM2 domain, one GATA-type zinc finger and one SANT domain. Atrophin-2 plays a role as a transcriptional repressor during development and later may play a role in cell survival. Overexpression of atrophin-2 recruits Bax to the nucleus, particularly to the promyelocytic leukemia (PML) nuclear body, also known as the PML oncogenic domain (POD), and triggers caspase-3 activation, leading to cell death. Atrophin-2 also interacts with HDAC1 and atrophin-1. Its interaction with atrophin-1 is improved when the poly-Gln region of atrophin-1 is extended.

REFERENCES

1. Waerner, T., et al. 2001. Human RERE is localized to nuclear promyelocytic leukemia oncogenic domains and enhances apoptosis. Cell Growth Differ. 12: 201-210.
2. Hatta, M. and Fukamizu, A. 2001. PODs in the nuclear spot: enigmas in the magician's pot. Sci. STKE 2001: pe1.
3. Erkner, A., et al. 2002. Grunge, related to human atrophin-like proteins, has multiple functions in *Drosophila* development. Development 129: 1119-1129.
4. Zoltewicz, J.S., et al. 2003. Atrophin-2 recruits histone deacetylase and is required for the function of multiple signaling centers during mouse embryogenesis. Development 131: 3-14.
5. Fransson, S., et al. 2006. Neuroblastoma tumors with favorable and unfavorable outcomes: significant differences in mRNA expression of genes mapped at 1p36.2. Genes Chromosomes Cancer 46: 45-52.
6. Wang, L., et al. 2006. Histone deacetylase-associating atrophin proteins are nuclear receptor corepressors. Genes Dev. 20: 525-530.

CHROMOSOMAL LOCATION

Genetic locus: Rere (mouse) mapping to 4 E2.

PRODUCT

atrophin-2 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 atrophin-2 shRNA Plasmid (m): sc-105110-SH and atrophin-2 shRNA (m) Lentiviral Particles: sc-105110-V as alternate gene silencing products.

For independent verification of atrophin-2 (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-105110A, sc-105110B and sc-105110C.

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

atrophin-2 siRNA (m) is recommended for the inhibition of atrophin-2 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 atrophin-2 gene expression knockdown using RT-PCR Primer: atrophin-2 (m)-PR: sc-105110-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.