SANTA CRUZ BIOTECHNOLOGY, INC.

Lipin-2 siRNA (m): sc-60943

BACKGROUND

The Lipin family of nuclear proteins contains three members: Lipin-1, Lipin-2 and Lipin-3, all of which contain a nuclear signal sequence, a highly conserved amino-terminal (NLIP) domain and a carboxy-terminal (CLIP) domain. Lipin-2 is ubiquitously expressed in various tissues including brain, kidney, lung, heart and skeletal muscles, and it is abundantly produced in the cornea, lens, retina, optic nerve and sclera. The gene encoding for Lipin-2 contains 11 single nucleotide polymorphisms (SNPs). Mutations in the Lipin-2 gene commonly result in Majeed syndrome, and autosomal recessive, autoinflammatory disorder characterized by chronic multifocal osteomyelitis and and congenital dyserythropoietic anaemia. The symptoms of this syndrome include inflammation of the bone and skin and recurrent fevers.

REFERENCES

1. Tomita, M., et al. 2002. Paraquat-induced gene expression in rat lung tissues using a differential display reverse transcription-polymerase chain reaction. Arch. Toxicol. 76: 530-537.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605519. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Scavello, G.S., et al. 2005. Genomic structure and organization of the high grade Myopia-2 locus (MYP2) critical region: mutation screening of 9 positional candidate genes. Mol. Vis. 11: 97-110.
4. Ferguson, P.J., et al. 2005. Homozygous mutations in Lipin-2 are responsible for the syndrome of chronic recurrent multifocal osteomyelitis and congenital dyserythropoietic anaemia (Majeed syndrome). J. Med. Genet. 42: 551-557.
5. Phan, J., et al. 2005. Biphasic expression of lipin suggests dual roles in adipocyte development. Drug News Perspect. 18: 5-11.
6. Reitman, M.L. 2005. The fat and thin of lipin. Cell Metab. 1: 5-6.
7. Phan, J. and Reue, K. 2005. Lipin, a lipodystrophy and obesity gene. Cell Metab. 1: 73-83.
8. Zhou, J. and Young, T.L. 2005. Evaluation of Lipin-2 as a candidate gene for autosomal dominant 1 high-grade myopia. Gene 352: 10-19.

CHROMOSOMAL LOCATION

Genetic locus: Lpin2 (mouse) mapping to 17 E1.3.

PRODUCT

Lipin-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 Lipin-2 shRNA Plasmid (m): sc-60943-SH and Lipin-2 shRNA (m) Lentiviral Particles: sc-60943-V as alternate gene silencing products.

For independent verification of Lipin-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-60943A, sc-60943B and sc-60943C.

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

Lipin-2 siRNA (m) is recommended for the inhibition of Lipin-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 Lipin-2 gene expression knockdown using RT-PCR Primer: Lipin-2 (m)-PR: sc-60943-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.