SANTA CRUZ BIOTECHNOLOGY, INC.

LASS4 siRNA (m): sc-62550

BACKGROUND

The LASS (longevity assurance homolog) family members are highly conserved from yeasts to mammals. Six members of this family of proteins have been characterized (LASS1, LASS2, LASS3, LASS4, LASS5 and LASS6) and they are all involved in sphingolipid synthesis. LASS4 is a 394 amino acid endoplasmic reticulum, multi-pass membrane protein. LASS4 increases the levels of long ceramides such as C22:0- and C24:0-ceramides. In cells deficient for CLN9, as observed in neuronal ceroid lipofuscinosis (NCL) or Batten disease, LASS4 can increase ceramide levels and partially correct growth and apoptosis.

REFERENCES

1. Riebeling, C., et al. 2003. Two mammalian longevity assurance gene (LAG1) family members, trh1 and trh4, regulate dihydroceramide synthesis using different fatty acyl-CoA donors. J. Biol. Chem. 278: 43452-43459.
2. Mizutani, Y., et al. 2005. Mammalian LASS6 and its related family members regulate synthesis of specific ceramides. Biochem. J. 390: 263-271.
3. Schulz, A., et al. 2006. The CLN9 protein, a regulator of dihydroceramide synthase. J. Biol. Chem. 281: 2784-2794.
4. Mizutani, Y., et al. 2006. LASS3 (longevity assurance homologue 3) is a mainly testis-specific (dihydro)ceramide synthase with relatively broad substrate specificity. Biochem. J. 398: 531-538.
5. Rosenthal, E.A., et al. 2011. Linkage and association of phospholipid transfer protein activity to LASS4. J. Lipid Res. 52: 1837-1846.

CHROMOSOMAL LOCATION

Genetic locus: Lass4 (mouse) mapping to 8 A1.1.

PRODUCT

LASS4 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 LASS4 shRNA Plasmid (m): sc-62550-SH and LASS4 shRNA (m) Lentiviral Particles: sc-62550-V as alternate gene silencing products.

For independent verification of LASS4 (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-62550A, sc-62550B and sc-62550C.

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

LASS4 siRNA (m) is recommended for the inhibition of LASS4 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 LASS4 gene expression knockdown using RT-PCR Primer: LASS4 (m)-PR: sc-62550-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.