

# LASS3 siRNA (h): sc-62547

## 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. LASS3 is a 383 amino acid membrane protein almost exclusively expressed in testis, suggesting that LASS3 plays an important role in proper testis function. It is also weakly expressed in skin. A transcriptional variant of LASS3 cDNA exists and can result in the production of a 419 amino acid protein (LASS3-long). LASS3 overproduction raises the level of several ceramide species, including C18:0- and C24:0-ceramides.

## REFERENCES

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2. Weinmann, A., et al. 2005. LASS6, an additional member of the longevity assurance gene family. *Int. J. Mol. Med.* 16: 905-910.
3. Mizutani, Y., et al. 2005. Mammalian LASS6 and its related family members regulate synthesis of specific ceramides. *Biochem. J.* 390: 263-271.
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. Schulz, A., et al. 2006. The CLN9 protein, a regulator of dihydroceramide synthase. *J. Biol. Chem.* 281: 2784-2794.
6. Pewzner-Jung, Y., et al. 2006. When do LASSes (longevity assurance genes) become CerS (ceramide synthases)? Insights into the regulation of ceramide synthesis. *J. Biol. Chem.* 281: 25001-25005.
7. Katsel, P., et al. 2007. Gene expression alterations in the sphingolipid metabolism pathways during progression of dementia and Alzheimer's disease: a shift toward ceramide accumulation at the earliest recognizable stages of Alzheimer's disease? *Neurochem. Res.* 32: 845-856.
8. Kihara, A., et al. 2007. Metabolism and biological functions of two phosphorylated sphingolipids, sphingosine 1-phosphate and ceramide 1-phosphate. *Prog. Lipid Res.* 46: 126-144.

## CHROMOSOMAL LOCATION

Genetic locus: CERS3 (human) mapping to 15q26.3.

## PRODUCT

LASS3 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LASS3 shRNA Plasmid (h): sc-62547-SH and LASS3 shRNA (h) Lentiviral Particles: sc-62547-V as alternate gene silencing products.

For independent verification of LASS3 (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-62547A, sc-62547B and sc-62547C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

LASS3 siRNA (h) is recommended for the inhibition of LASS3 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  $\mu$ M in 66  $\mu$ l. 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 LASS3 gene expression knockdown using RT-PCR Primer: LASS3 (h)-PR: sc-62547-PR (20  $\mu$ l, 326 bp). 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](http://www.scbt.com) for detailed protocols and support products.