SANTA CRUZ BIOTECHNOLOGY, INC.

LASS2 siRNA (h): sc-62545

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The LASS (longevity assurance homolog) family members are highly conserved from yeasts to mammals. Six members of this family of proteins involved in sphingolipid synthesis have been characterized (LASS1, LASS2, LASS3, LASS4, LASS5 and LASS6). LASS2 is a 380 amino acid multi-pass membrane protein expressed in kidney, liver, brain, heart, placenta and lung. LASS2 suppresses the growth of cancer cells and is involved in sphingolipid synthesis. Overproduction of LASS2 increases the levels of long ceramides such as C22:0- and C24:0-ceramides. The N-terminal asparagine residue serves as a site for glycosylation on the luminal side of the endoplasmic reticulum membrane. LASS2 interacts with several membrane-associated receptors or transporters including ASGPR1, ASGPR2 and OCT1.

REFERENCES

1. Pan, H., et al. 2001. Cloning, mapping, and characterization of a human homologue of the yeast longevity assurance gene LAG1. Genomics 77: 58-64.
2. Mizutani, Y., et al. 2005. Mammalian LASS6 and its related family members regulate synthesis of specific ceramides. Biochem. J. 390: 263-271.
3. Cai, X.F., et al. 2005. Study of the expression membrane protein LASS2. Sheng Wu Gong Cheng Xue Bao 19: 69-73.
4. Yu, Y., et al. 2006. Expression of LASS2 controlled by LAG1 or ADH1 promoters cannot functionally complement Lag1p. Microbiol. Res. 161: 203-211.
5. 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.
6. Schulz, A., et al. 2006. The CLN9 protein, a regulator of dihydroceramide synthase. J. Biol. Chem. 281: 2784-2794.

CHROMOSOMAL LOCATION

Genetic locus: CERS2 (human) mapping to 1q21.3.

PRODUCT

LASS2 siRNA (h) is a pool of 2 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 LASS2 shRNA Plasmid (h): sc-62545-SH and LASS2 shRNA (h) Lentiviral Particles: sc-62545-V as alternate gene silencing products.

For independent verification of LASS2 (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-62545A and sc-62545B.

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.

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

LASS2 siRNA (h) is recommended for the inhibition of LASS2 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.

GENE EXPRESSION MONITORING

LASS2 (C-11): sc-390745 is recommended as a control antibody for monitoring of LASS2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LASS2 gene expression knockdown using RT-PCR Primer: LASS2 (h)-PR: sc-62545-PR (20 µl, 549 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.