SANTA CRUZ BIOTECHNOLOGY, INC.

LSAMP siRNA (h): sc-78206

BACKGROUND

LSAMP (limbic system-associated membrane protein), also known as LAMP, is a neuronal surface glycoprotein found in cortical and subcortical regions of the limbic system expressed on the surface of somata and proximal dendrites of neurons. It is a member of the immunoglobulin (Ig) superfamily and belongs to the IgLON subfamily of cell adhesion molecules. LSAMP contains three Ig domains and a glycosylphosphatidylinositol anchor. It is a highly conserved protein between rodents and humans (99% sequence identity) and it is involved in the regulation of neurite outgrowth and mediation of proper circuit formation of limbic pathways. This suggests that LSAMP plays an important role in the development and function of the limbic system. In addition, LSAMP may function as a tumor suppressor in renal carcinomas.

REFERENCES

1. Pimenta, A.F., et al. 1996. cDNA cloning and structural analysis of the human limbic-system-associated membrane protein (LAMP). Gene 170: 189-195.
2. Hancox, K.A., et al. 1997. AvGp50, a predominantly axonally expressed glycoprotein, is a member of the IgLON's subfamily of cell adhesion molecules (CAMs). Brain Res. Mol. Brain Res. 44: 273-285.
3. Eagleson, K.L., et al. 2003. Distinct domains of the limbic system-associated membrane protein (LAMP) mediate discrete effects on neurite outgrowth. Mol. Cell. Neurosci. 24: 725-740.
4. Reed, J., et al. 2004. Diglons are heterodimeric proteins composed of IgLON subunits, and Diglon-CO inhibits neurite outgrowth from cerebellar granule cells. J. Cell Sci. 117: 3961-3973.
5. Pimenta, A.F. and Levitt, P. 2004. Characterization of the genomic structure of the mouse limbic system-associated membrane protein (Lsamp) gene. Genomics 83: 790-801.
6. Ntougkos, E., et al. 2005. The IgLON family in epithelial ovarian cancer: expression profiles and clinicopathologic correlates. Clin. Cancer Res. 11: 5764-5768.
7. Yamamoto, K. and Reiner, A. 2005. Distribution of the limbic system-associated membrane protein (LAMP) in pigeon forebrain and midbrain. J. Comp. Neurol. 486: 221-242.

CHROMOSOMAL LOCATION

Genetic locus: LSAMP (human) mapping to 3q13.31.

PRODUCT

LSAMP 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LSAMP shRNA Plasmid (h): sc-78206-SH and LSAMP shRNA (h) Lentiviral Particles: sc-78206-V as alternate gene silencing products.

For independent verification of LSAMP (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-78206A, sc-78206B and sc-78206C.

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

LSAMP siRNA (h) is recommended for the inhibition of LSAMP 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

LSAMP (Y-13A): sc-74210 is recommended as a control antibody for monitoring of LSAMP 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LSAMP gene expression knockdown using RT-PCR Primer: LSAMP (h)-PR: sc-78206-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.