SANTA CRUZ BIOTECHNOLOGY, INC.

LHFPL4 siRNA (h): sc-78176

BACKGROUND

The development of lipomas, benign tumors composed of fatty tissues, have been linked to breakpoints in the HMGI-C gene. LHFP (lipoma HMGIC fusion partner) is a 200 amino acid multi-pass membrane protein that acts as a fusion partner with HMGI-C in a lipoma with the translocation t(12;13)(q13-q15;q12). As a LHFP family member, LHFPL4 (lipoma HMGIC fusion partner-like 4 protein) is a 247 amino acid multi-pass membrane protein that is encoded by a gene which is found to be methylated in 55% of cervical cancers. This suggests that LHFPL4 is a novel methylation target specific for cervical cancer and may be evaluated for early detection and risk prediction. LHFPL4 shares 62% sequence similarity with LHFPL5, a protein which has been linked to normal function of the human cochlea. There are two isoforms of LHFPL4 that are produced as a result of alternative splicing events.

REFERENCES

1. Petit, M.M., et al. 1999. LHFP, a novel translocation partner gene of HMGIC in a lipoma, is a member of a new family of LHFP-like genes. Genomics 57: 438-441.
2. Rogalla, P., et al. 2002. Absence of HMGIC-LHFP fusion in pulmonary chondroid hamartomas with aberrations involving chromosomal regions 12q13 through 15 and 13q12 through q14. Cancer Genet. Cytogenet. 133: 90-93.
3. Longo-Guess, C.M., et al. 2005. A missense mutation in the previously undescribed gene Tmhs underlies deafness in hurry-scurry (hscy) mice. Proc. Natl. Acad. Sci. USA 102: 7894-7899.
4. Nilsson, M., et al. 2006. Truncation and fusion of HMGA2 in lipomas with rearrangements of 5q32→q33 and 12q14→q15. Cytogenet. Genome Res. 112: 60-66.
5. Kalay, E., et al. 2006. Mutations in the lipoma HMGIC fusion partner-like 5 (LHFPL5) gene cause autosomal recessive nonsyndromic hearing loss. Hum. Mutat. 27: 633-639.
6. Shabbir, M.I., et al. 2006. Mutations of human TMHS cause recessively inherited non-syndromic hearing loss. J. Med. Genet. 43: 634-640.

CHROMOSOMAL LOCATION

Genetic locus: LHFPL4 (human) mapping to 3p25.3.

PRODUCT

LHFPL4 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 LHFPL4 shRNA Plasmid (h): sc-78176-SH and LHFPL4 shRNA (h) Lentiviral Particles: sc-78176-V as alternate gene silencing products.

For independent verification of LHFPL4 (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-78176A, sc-78176B and sc-78176C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

LHFPL4 siRNA (h) is recommended for the inhibition of LHFPL4 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LHFPL4 gene expression knockdown using RT-PCR Primer: LHFPL4 (h)-PR: sc-78176-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.