SANTA CRUZ BIOTECHNOLOGY, INC.

AGPHD1 siRNA (m): sc-141920

BACKGROUND

AGPHD1 (aminoglycoside phosphotransferase domain containing 1) is a 373 amino acid protein belonging to the aminoglycoside phosphotransferase family. Existing as three alternatively spliced isoforms, AGPHD1 localizes to cytoplasm and participates in kinase and transferase activities. AGPHD1 may be associated with chronic obstructive pulmonary disease (COPD) and lung cancer risk in former and current smokers. AGPHD1 is encoded by a gene that maps to human chromosome 15. Encoding more than 700 genes, chromosome 15 is made up of approximately 106 million base pairs and is about 3% of the human genome. A lung cancer susceptibility locus maps to nicotinic acetylcholine receptor subunit genes at chromosome 15q25.

REFERENCES

1. Liu, P., et al. 2008. Familial aggregation of common sequence variants on 15q24-25.1 in lung cancer. J. Natl. Cancer Inst. 100: 1326-1330.
2. Amos, C.I., et al. 2008. Genome-wide association scan of tag SNPs identifies a susceptibility locus for lung cancer at 15q25.1. Nat. Genet. 40: 616-622.
3. Hung, R.J., et al. 2008. A susceptibility locus for lung cancer maps to nicotinic acetylcholine receptor subunit genes on 15q25. Nature 452: 633-637.
4. Galvan, A. and Dragani, T.A. 2010. Nicotine dependence may link the 15q25 locus to lung cancer risk. Carcinogenesis 31: 331-333.
5. Hansen, H.M., et al. 2010. Fine mapping of chromosome 15q25.1 lung cancer susceptibility in African-Americans. Hum. Mol. Genet. 19: 3652-3661.
6. Truong, T., et al. 2010. Replication of lung cancer susceptibility loci at chromosomes 15q25, 5p15, and 6p21: a pooled analysis from the International Lung Cancer Consortium. J. Natl. Cancer Inst. 102: 959-971.
7. Amos, C.I., et al. 2010. Nicotinic acetylcholine receptor region on chromosome 15q25 and lung cancer risk among African Americans: a case-control study. J. Natl. Cancer Inst. 102: 1199-1205.
8. SWISS-PROT/TrEMBL (A2RU49). World Wide Web URL: http://www.uniprot.org/uniprot/A2RU49

CHROMOSOMAL LOCATION

Genetic locus: Agphd1 (mouse) mapping to 9 B.

PRODUCT

AGPHD1 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 AGPHD1 shRNA Plasmid (m): sc-141920-SH and AGPHD1 shRNA (m) Lentiviral Particles: sc-141920-V as alternate gene silencing products.

For independent verification of AGPHD1 (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-141920A, sc-141920B and sc-141920C.

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

AGPHD1 siRNA (m) is recommended for the inhibition of AGPHD1 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 AGPHD1 gene expression knockdown using RT-PCR Primer: AGPHD1 (m)-PR: sc-141920-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.