SANTA CRUZ BIOTECHNOLOGY, INC.

DDHD1 siRNA (h): sc-92410

BACKGROUND

Phospholipases catalyze the release of fatty acids from phospholipids. The phospholipase DDHD1 (DDHD domain-containing protein 1), also designated Phosphatidic acid-preferring phospholipase A1 homolog (PA-PLA1) is a 900 amino acid protein that contains one DDHD domain. It is a cytoplasmic protein that is highly expressed in testis, but also shows expression in brain, spleen and lung. DDHD1 is thought to hydrolyze phosphatidic acid and exists as three isoforms, which mostly likely function to alter its substrate specificity. The gene encoding DDHD1 maps to chromosome 14, which contains about 700 genes and makes up about 3.5% of human cellular DNA. Chromosome 14 encodes the presinilin 1 (PSEN1) gene, which is one of the three key genes associated with the development of Alzheimer's disease. The SERPINA1 gene is located on chromosome 14 and when defective leads to the genetic disorder α1-antitrypsin deficiency. Notably, the immunoglobulin heavy chain locus is found on chromosome 14 and has been identified as a fusion with the chromosome 19 encoded protein BCL3 in the (14;19) translocations found in a variety of B cell malignancies.

REFERENCES

1. Aoki, J., et al. 2002. Structure and function of phosphatidylserine-specific phospholipase A1. Biochim. Biophys. Acta 1582: 26-32.
2. Heilig, R., et.al. 2003. The DNA sequence and analysis of human chromosome 14. Nature 421: 601-607.
3. Godbolt, A.K., et al. 2004. A presenilin 1 R278I mutation presenting with language impairment. Neurology 63: 1702-1704.
4. Stolk, J., et al. 2006. α1-antitrypsin deficiency: current perspective on research, diagnosis, and management. Int. J. Chron. Obstruct. Pulmon. Dis. 1: 151-160.
5. Martín-Subero, J.I., et al. 2007. A comprehensive genetic and histopathologic analysis identifies two subgroups of B-cell malignancies carrying a t(14;19)(q32;q13) or variant BCL3-translocation. Leukemia 21: 1532-1544.
6. Micci, F., et al. 2007. Molecular cytogenetic characterization of t(14;19)(q32;p13), a new recurrent translocation in B cell malignancies. Virchows Arch. 450: 559-565.

CHROMOSOMAL LOCATION

Genetic locus: DDHD1 (human) mapping to 14q22.1.

PRODUCT

DDHD1 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 DDHD1 shRNA Plasmid (h): sc-92410-SH and DDHD1 shRNA (h) Lentiviral Particles: sc-92410-V as alternate gene silencing products.

For independent verification of DDHD1 (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-92410A, sc-92410B and sc-92410C.

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

DDHD1 siRNA (h) is recommended for the inhibition of DDHD1 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 DDHD1 gene expression knockdown using RT-PCR Primer: DDHD1 (h)-PR: sc-92410-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.