

ELMSAN1 siRNA (h): sc-92414

BACKGROUND

ELMSAN1 (ELM2 and SANT domain-containing protein 1), also known as LSR68, MIDEAS or C14orf43, is a 1,045 amino acid nuclear protein that contains one ELM2 domain and a SANT domain. ELMSAN1 is part of a deacetylase complex that contains TdIF1 and HDAC1. The gene encoding ELMSAN1 maps to human chromosome 14q24.2. Chromosome 14 encodes the presenilin 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 α 1-antitrypsin deficiency. This disorder is characterized by severe lung complications and liver dysfunction. Notably, the immunoglobulin heavy chain locus is found on chromosome 14 and has been identified as a fusion with the chromosome 19 encoded protein Bcl-3 in the (14;19) translocations found in a variety of B cell malignancies.

REFERENCES

- Godbolt, A.K., Beck, J.A., Collinge, J., Garrard, P., Warren, J.D., Fox, N.C. and Rossor, M.N. 2004. A presenilin 1 R278I mutation presenting with language impairment. *Neurology* 63: 1702-1704.
- Stolk, J., Seersholm, N. and Kalsheker, N. 2006. α 1-antitrypsin deficiency: current perspective on research, diagnosis, and management. *Int. J. Chron. Obstruct. Pulmon. Dis.* 1: 151-160.
- Vetrivel, K.S., Zhang, Y.W., Xu, H. and Thinakaran, G. 2006. Pathological and physiological functions of presenilins. *Mol. Neurodegener.* 1: 4.
- Albani, D., Roiter, I., Artuso, V., Batelli, S., Prato, F., Pesaresi, M., Galimberti, D., Scarpini, E., Bruni, A., Franceschi, M., Piras, M.R., Confaloni, A. and Forloni, G. 2007. Presenilin-1 mutation E318G and familial Alzheimer's disease in the Italian population. *Neurobiol. Aging* 28: 1682-1688.
- Cruz, P.E., Mueller, C. and Flotte, T.R. 2007. The promise of gene therapy for the treatment of α 1 antitrypsin deficiency. *Pharmacogenomics* 8: 1191-1198.
- Filley, C.M., Rollins, Y.D., Anderson, C.A., Arciniegas, D.B., Howard, K.L., Murrell, J.R., Boyer, P.J., Kleinschmidt-DeMasters, B.K. and Ghetti, B. 2007. The genetics of very early onset Alzheimer disease. *Cogn. Behav. Neurol.* 20: 149-156.

CHROMOSOMAL LOCATION

Genetic locus: ELMSAN1 (human) mapping to 14q24.3.

PRODUCT

ELMSAN1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ELMSAN1 shRNA Plasmid (h): sc-92414-SH and ELMSAN1 shRNA (h) Lentiviral Particles: sc-92414-V as alternate gene silencing products.

For independent verification of ELMSAN1 (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-92414A, sc-92414B and sc-92414C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

ELMSAN1 siRNA (h) is recommended for the inhibition of ELMSAN1 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 μ M in 66 μ l. 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

ELMSAN1 (B-10): sc-514710 is recommended as a control antibody for monitoring of ELMSAN1 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 ELMSAN1 gene expression knockdown using RT-PCR Primer: ELMSAN1 (h)-PR: sc-92414-PR (20 μ l). 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.