

HEATR4 siRNA (h): sc-92401

BACKGROUND

HEATR4 (HEAT repeat containing 4) is a 979 amino acid protein containing three HEAT (Huntingtin, elongation factor 3 (EF3), protein phosphatase 2A (PP2A) and the yeast PI3-kinase Tor1) repeats. HEAT repeats form rod-like helical structures that are involved in intracellular transport. The gene encoding HEATR4 maps to human chromosome 14, which houses over 700 genes and comprises nearly 3.5% of the human genome. Chromosome 14 encodes the presenilin 1 (PSEN1) gene, which is one of the three key genes associated with the development of Alzheimer's disease (AD). The SERPINA1 gene is also located on chromosome 14 and, when defective, leads to the genetic disorder α 1-antitrypsin deficiency, which is characterized by severe lung complications and liver dysfunction.

REFERENCES

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3. Avramopoulos, D., Fallin, M.D. and Bassett, S.S. 2005. Linkage to chromosome 14q in Alzheimer's disease (AD) patients without psychotic symptoms. *Am. J. Med. Genet. B Neuropsychiatr. Genet.* 132B: 9-13.
4. Larner, A.J. and Doran, M. 2009. Genotype-phenotype relationships of presenilin-1 mutations in Alzheimer's disease: an update. *J. Alzheimers Dis.* 17: 259-265.
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CHROMOSOMAL LOCATION

Genetic locus: HEATR4 (human) mapping to 14q24.3.

PRODUCT

HEATR4 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 HEATR4 shRNA Plasmid (h): sc-92401-SH and HEATR4 shRNA (h) Lentiviral Particles: sc-92401-V as alternate gene silencing products.

For independent verification of HEATR4 (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-92401A, sc-92401B and sc-92401C.

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.

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

HEATR4 siRNA (h) is recommended for the inhibition of HEATR4 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HEATR4 gene expression knockdown using RT-PCR Primer: HEATR4 (h)-PR: sc-92401-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.