SANTA CRUZ BIOTECHNOLOGY, INC.

CNIH siRNA (h): sc-92298

BACKGROUND

CNIH, also known as cornichon homolog, CNIL, TGAM77 (T-cell growth-associated molecule 77) or CNIH1, is a 144 amino acid multi-pass membrane protein of the Golgi apparatus and endoplasmic reticulum. A member of the cornichon family, CNIH shares 63% sequence similarity with its *Drosophila* homolog and is highly expressed in liver, heart, pancreas, skeletal muscle, stomach, lymph node, thymus, ovary, placenta, brain and fetal liver. CNIH assists in maturation and selective transport of TGFα (transforming growth factor-α) family members and is encoded by a gene that maps to human chromosome 14q22.2. Chromosome 14 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 α1-antitrypsin deficiency, which is characterized by severe lung complications and liver dysfunction.

REFERENCES

1. Utku, N., et al. 1999. The human homolog of *Drosophila* cornichon protein is differentially expressed in alloactivated T-cells. Biochim. Biophys. Acta 1449: 203-210.
2. Bökel, C., et al. 2006. *Drosophila* Cornichon acts as cargo receptor for ER export of the TGFα-like growth factor Gurken. Development 133 459-470.
3. Castro, C.P., et al. 2007. Cornichon regulates transport and secretion of TGFα-related proteins in metazoan cells. J. Cell Sci. 120: 2454-2466.
4. Larner, A.J., et al. 2009. Genotype-phenotype relationships of presenilin-1 mutations in Alzheimer's disease: an update. J. Alzheimers Dis. 17: 259-265.
5. Schwenk, J., et al. 2009. Functional proteomics identify cornichon proteins as auxiliary subunits of AMPA receptors. Science 323: 1313-1319.
6. Topic, A., et al. 2009. α-1-antitrypsin phenotypes in adult liver disease patients. Ups. J. Med. Sci. 114: 228-234.

CHROMOSOMAL LOCATION

Genetic locus: CNIH (human) mapping to 14q22.2.

PRODUCT

CNIH 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 CNIH shRNA Plasmid (h): sc-92298-SH and CNIH shRNA (h) Lentiviral Particles: sc-92298-V as alternate gene silencing products.

For independent verification of CNIH (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-92298A, sc-92298B and sc-92298C.

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

CNIH siRNA (h) is recommended for the inhibition of CNIH 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 CNIH gene expression knockdown using RT-PCR Primer: CNIH (h)-PR: sc-92298-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.