SANTA CRUZ BIOTECHNOLOGY, INC.

METT11D1 siRNA (h): sc-92322

BACKGROUND

METT11D1 (methyltransferase 11 domain-containing protein 1), also known as METTL17 (methyltransferase like 17), false p73 target gene protein or protein RSM22 homolog, mitochondrial, is a 456 amino acid mitochondrial protein that belongs to the Rsm22 family and methyltransferase superfamily. Existing as three alternatively spliced isoforms, METT11D1 is thought to function as a component of the mitochondrial small ribosomal subunit. The gene encoding METT11D1 maps to human chromosome 14q11.2, which houses over 700 genes and comprises nearly 3.5% of the human genome. Chromosome 14 encodes the presinilin 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

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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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6. Topic, A., Alempijevic, T., Milutinovic, A.S. and Kovacevic, N. 2009. α-1-antitrypsin phenotypes in adult liver disease patients. Ups. J. Med. Sci. 114: 228-234.

CHROMOSOMAL LOCATION

Genetic locus: METTL17 (human) mapping to 14q11.2.

PRODUCT

METT11D1 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 METT11D1 shRNA Plasmid (h): sc-92322-SH and METT11D1 shRNA (h) Lentiviral Particles: sc-92322-V as alternate gene silencing products.

For independent verification of METT11D1 (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-92322A, sc-92322B and sc-92322C.

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

METT11D1 siRNA (h) is recommended for the inhibition of METT11D1 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 METT11D1 gene expression knockdown using RT-PCR Primer: METT11D1 (h)-PR: sc-92322-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Du, P., Yuan, B., Cao, J., Zhao, J., Ding, L., Chen, L., Ying, S., Jiang, L., Lin, J., Xu, X., Cheng, L. and Ye, Q. 2015. Methyltransferase-like 17 physically and functionally interacts with estrogen receptors. IUBMB life 67: 861-868.

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.