SANTA CRUZ BIOTECHNOLOGY, INC.

4833442J19Rik siRNA (m): sc-108980

BACKGROUND

Methylation is an important reaction in the metabolism of many drugs, other xenobiotics and endogenous molecules. A methyltransferase is a type of transferase enzyme that transfers a methyl group from a donor to an acceptor. 4833442J19Rik (RIKEN cDNA 4833442J19 gene), also known as Mettl20 (methyltransferase-like protein 20), AI256744 or RP23-355N5.5, is a 255 amino acid protein belonging to the methyltransferase superfamily and the Mettl20 family. 4833442J19Rik is thought to be a probable methyltransferase. 4833442J19Rik is encoded by a gene located on mouse chromosome 6 G3 and is a homolog of human METTL20. Human METTL20 is encoded by a gene located on chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a number of skeletal deformities, including hypochondrogenesis, achondrogenesis and Kniest dysplasia. Noonan syndrome, which includes heart and facial developmental defects among the primary symptoms, is caused by a mutant form of PTPN11 gene product, SH-PTP2.

REFERENCES

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2. Fujioka, M. 1992. Mammalian small molecule methyltransferases: their structural and functional features. Int. J. Biochem. 24: 1917-1924.
3. Allen, T.L., et al. 1996. Cytogenetic and molecular analysis in trisomy 12p. Am. J. Med. Genet. 63: 250-256.
4. Grewal, S.I., et al. 2004. Regulation of heterochromatin by histone methylation and small RNAs. Curr. Opin. Cell Biol. 16: 230-238.
5. Zumkeller, W., et al. 2004. Genotype/phenotype analysis in a patient with pure and complete trisomy 12p. Am. J. Med. Genet. A 129A: 261-264.
6. Segel, R., et al. 2006. The natural history of trisomy 12p. Am. J. Med. Genet. A 140: 695-703.
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CHROMOSOMAL LOCATION

Genetic locus: 4833442J19Rik (mouse) mapping to 6 G3.

PRODUCT

4833442J19Rik siRNA (m) is a pool of 2 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 4833442J19Rik shRNA Plasmid (m): sc-108980-SH and 4833442J19Rik shRNA (m) Lentiviral Particles: sc-108980-V as alternate gene silencing products.

For independent verification of 4833442J19Rik (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-108980A and sc-108980B.

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 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

4833442J19Rik siRNA (m) is recommended for the inhibition of 4833442J19Rik expression in mouse 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 4833442J19Rik gene expression knockdown using RT-PCR Primer: 4833442J19Rik (m)-PR: sc-108980-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.