

RNase T2b siRNA (m): sc-152998

BACKGROUND

Ribonucleases are ubiquitous enzymes involved in RNA metabolism and are classified in several families on the basis of their structural, catalytic and biological properties. RNase T2 (ribonuclease T2), also known as RNASE6PL, is a 256 amino acid secreted glycoprotein that belongs to the highly conserved family of cytoplasmic RNases. Existing as two isoforms due to alternative splicing events, RNase T2 acts as a class II tumor suppressor. Ubiquitously expressed, RNase T2 is suggested to play an important role in regulating tumorigenesis and metastatization. Mutations in the gene encoding RNASE T2 leads to cystic leukoencephalopathy, an autosomal recessive disorder with an indistinguishable clinical and neuroradiological phenotype. RNASET2 deficiency may interfere with brain development and myelination through angiogenesis or RNA metabolism.

REFERENCES

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6. Smirnov, P., et al. 2006. A recombinant human RNASET2 glycoprotein with antitumorigenic and antiangiogenic characteristics: expression, purification, and characterization. *Cancer* 107: 2760-2769.
7. Monti, L., et al. 2008. RNASET2 as a tumor antagonizing gene in a melanoma cancer model. *Oncol. Res.* 17: 69-74.
8. Henneke, M., et al. 2009. RNASET2-deficient cystic leukoencephalopathy resembles congenital cytomegalovirus brain infection. *Nat. Genet.* 41: 773-775.

CHROMOSOMAL LOCATION

Genetic locus: Rnaset2b (mouse) mapping to 17 A1.

PRODUCT

RNase T2b siRNA (m) is a target-specific 19-25 nt siRNA 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 RNase T2b shRNA Plasmid (m): sc-152998-SH and RNase T2b shRNA (m) Lentiviral Particles: sc-152998-V as alternate gene silencing 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

RNase T2b siRNA (m) is recommended for the inhibition of RNase T2b 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 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

RNase T2 (E-5): sc-393729 is recommended as a control antibody for monitoring of RNase T2b 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 MarkerTM 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 RNase T2b gene expression knockdown using RT-PCR Primer: RNase T2b (m)-PR: sc-152998-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.