SANTA CRUZ BIOTECHNOLOGY, INC.

Nop10 siRNA (m): sc-106308

BACKGROUND

Nop10, also known as NOLA3 (nucleolar protein family A member 3), is a 64 amino acid protein that localizes to the nucleolus, as well as to cajal bodies, and exists as a component of the multi-protein H/ACA small nucleolar ribonucleoprotein (H/ACA snoRNP) complex. Working in tandem with other members of the H/ACA snoRNP complex, Nop10 plays an essential role in telomere maintenance and ribosome biogenesis and is also thought to be required for the proper processing and trafficking of the TERT (telomerase reverse transcriptase) holoenzyme. Defects in the gene encoding Nop10 are the cause of dyskeratosis congenita autosomal recessive (ARDKC), a rare and progressive bone marrow failure syndrome that is characterized by reticulated skin hyperpigmentation, nail dystrophy and mucosal leukoplakia.

REFERENCES

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3. Wang, C. and Meier, U.T. 2004. Architecture and assembly of mammalian H/ACA small nucleolar and telomerase ribonucleoproteins. EMBO J. 23: 1857-1867.
4. Yamaguchi, H., et al. 2005. Mutations in TERT, the gene for telomerase reverse transcriptase, in aplastic anemia. N. Engl. J. Med. 352: 1413-1424.
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6. Walne, A.J., et al. 2007. Genetic heterogeneity in autosomal recessive dyskeratosis congenita with one subtype due to mutations in the telomerase-associated protein NOP10. Hum. Mol. Genet. 16: 1619-1629.
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CHROMOSOMAL LOCATION

Genetic locus: Nop10 (mouse) mapping to 2 E3.

PRODUCT

Nop10 siRNA (m) 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 Nop10 shRNA Plasmid (m): sc-106308-SH and Nop10 shRNA (m) Lentiviral Particles: sc-106308-V as alternate gene silencing products.

For independent verification of Nop10 (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-106308A, sc-106308B and sc-106308C.

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

Nop10 siRNA (m) is recommended for the inhibition of Nop10 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.

GENE EXPRESSION MONITORING

Nop10 (6H6): sc-517170 is recommended as a control antibody for monitoring of Nop10 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-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 Nop10 gene expression knockdown using RT-PCR Primer: Nop10 (m)-PR: sc-106308-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.