SANTA CRUZ BIOTECHNOLOGY, INC.

NUDT21 siRNA (m): sc-77406

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The Power to Question

BACKGROUND

NUDT21 (nudix (nucleoside diphosphate linked moiety X)-type motif 21), also known as CPSF5 (cleavage and polyadenylation specificity factor subunit 5) or CFIm25 (cleavage and polyadenylation specificity factor 25 kDa subunit), is a member of the nudix hydrolase family of pyrophosphatases. Nudix hydrolases contain a characteristic NUDIX domain and are responsible for catalyzing the hydrolysis of nucleoside diphosphate derivatives. NUDT21 localizes to the paraspeckles and forms a heterodimer with CPSF6 or CPSF7 to comprise the CFIm (mammalian Cleavage Factor I) complex. NUDT21 is the smaller subunit of the complex and is present in all heterodimer combinations. CFIm plays an important role in pre-mRNA 3' cleavage and polyadenylation processing.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604978. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Kubo, T., et al. 2006. Knock-down of 25 kDa subunit of cleavage factor Im in Hela cells alters alternative polyadenylation within 3'-UTRs. Nucleic Acids Res. 34: 6264-6271.
3. Forbes, K.P., et al. 2006. An *Arabidopsis* Fip1 homolog interacts with RNA and provides conceptual links with a number of other polyadenylation factor subunits. J. Biol. Chem. 281: 176-186.
4. Jung, J., et al. 2007. Overexpression, crystallization and preliminary X-ray crystallographic analysis of nudix hydrolase Orf141 from *Escherichia coli* K-1. Acta Crystallogr. Sect. F Struct. Biol. Cryst. Commun. 63: 812-815.
5. Sartini, B.L., et al. 2007. Pre-messenger RNA cleavage factor I (CFIm): potential role in alternative polyadenylation during spermatogenesis. Biol. Reprod. 78: 472-482.
6. Shimazu, T., et al. 2007. Multiple histone deacetylases and the CREB-binding protein regulate pre-mRNA 3'-end processing. J. Biol. Chem. 282: 4470-4478.
7. Gabelli, S.B., et al. 2007. Structure and function of the *E. coli* dihydroneopterin triphosphate pyrophosphatase: a nudix enzyme involved in folate biosynthesis. Structure 15: 1014-1022.

CHROMOSOMAL LOCATION

Genetic locus: Nudt21 (mouse) mapping to 8 C5.

PRODUCT

NUDT21 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 NUDT21 shRNA Plasmid (m): sc-77406-SH and NUDT21 shRNA (m) Lentiviral Particles: sc-77406-V as alternate gene silencing products.

For independent verification of NUDT21 (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-77406A, sc-77406B and sc-77406C.

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

NUDT21 siRNA (m) is recommended for the inhibition of NUDT21 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

NUDT21 (2203C3): sc-81109 is recommended as a control antibody for monitoring of NUDT21 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor NUDT21 gene expression knockdown using RT-PCR Primer: NUDT21 (m)-PR: sc-77406-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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.