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SANTA CRUZ BIOTECHNOLOGY, INC.

NUT siRNA (m): sc-150129

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

NUT (nuclear protein in testis), also known as C15orf55, is a 1,132 amino acid protein that is specifically expressed in testis. Belonging to the FAM22 family, NUT shuttles between nucleus and cytoplasm via a leptomycin-sensitive pathway. It is suggested that the translocation of the NUT gene is the cause of nuclear protein in testis midline carcinomas (NMC). NMCs are highly aggressive carcinomas typically arising in midline structures in young individuals. These carcinomas are characterized by the presence of a chromosomal rearrangement of the NUT gene on chromosome 15 (15q14), which results in a chromosomal translocation most commonly involving the BRD4 gene on chromosome 19p13. Endogenous BRD-NUT fusion proteins contribute to carcinogenesis by associating with chromatin and interfering with epithelial differentiation.

REFERENCES

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5. French, C.A., et al. 2008. BRD-NUT oncoproteins: a family of closely related nuclear proteins that block epithelial differentiation and maintain the growth of carcinoma cells. Oncogene 27: 2237-2242.
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8. den Bakker, M.A., et al. 2009. NUT midline carcinoma of the parotid gland with mesenchymal differentiation. Am. J. Surg. Pathol. 33: 1253-1258.
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CHROMOSOMAL LOCATION

Genetic locus: Nutm1 (mouse) mapping to 2 E3.

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.

PRODUCT

NUT 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 NUT shRNA Plasmid (m): sc-150129-SH and NUT shRNA (m) Lentiviral Particles: sc-150129-V as alternate gene silencing products.

For independent verification of NUT (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-150129A, sc-150129B and sc-150129C.

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

NUT siRNA (m) is recommended for the inhibition of NUT 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 NUT gene expression knockdown using RT-PCR Primer: NUT (m)-PR: sc-150129-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.