

NUCKS siRNA (h): sc-78660

BACKGROUND

NUCKS (nuclear casein kinase and cyclin-dependent kinase substrate 1), also known as JC7, is a 243 amino acid protein that localizes to the nucleus and exists as multiple alternatively spliced isoforms which may be subject to post-translational phosphorylation. The gene encoding NUCKS maps to human chromosome 1q32.1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

1. Ostvold, A.C., Norum, J.H., Mathiesen, S., Wanvik, B., Sefland, I. and Grundt, K. 2001. Molecular cloning of a mammalian nuclear phosphoprotein NUCKS, which serves as a substrate for Cdk1 *in vivo*. *Eur. J. Biochem.* 268: 2430-2440.
2. Grundt, K., Skjeldal, L., Anthonsen, H.W., Skauge, T., Huitfeldt, H.S. and Ostvold, A.C. 2002. A putative DNA-binding domain in the NUCKS protein. *Arch. Biochem. Biophys.* 407: 168-175.
3. Thompson, H.G., Harris, J.W., Wold, B.J., Quake, S.R. and Brody, J.P. 2002. Identification and confirmation of a module of coexpressed genes. *Genome Res.* 12: 1517-1522.
4. Grundt, K., Haga, I.V., Aleporou-Marinou, V., Drosos, Y., Wanvik, B. and Ostvold, A.C. 2004. Characterisation of the NUCKS gene on human chromosome 1q32.1 and the presence of a homologous gene in different species. *Biochem. Biophys. Res. Commun.* 323: 796-801.
5. Grundt, K., Haga, I.V., Huitfeldt, H.S. and Ostvold, A.C. 2007. Identification and characterization of two putative nuclear localization signals (NLS) in the DNA-binding protein NUCKS. *Biochim. Biophys. Acta* 1773: 1398-1406.
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CHROMOSOMAL LOCATION

Genetic locus: NUCKS1 (human) mapping to 1q32.1.

PRODUCT

NUCKS siRNA (h) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NUCKS shRNA Plasmid (h): sc-78660-SH and NUCKS shRNA (h) Lentiviral Particles: sc-78660-V as alternate gene silencing products.

For independent verification of NUCKS (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-78660A, sc-78660B and sc-78660C.

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

NUCKS siRNA (h) is recommended for the inhibition of NUCKS expression in human 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor NUCKS gene expression knockdown using RT-PCR Primer: NUCKS (h)-PR: sc-78660-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Cheong, J.Y., Kim, Y.B., Woo, J.H., Kim, D.K., Yeo, M., Yang, S.J., Yang, K.S., Soon, S.K., Wang, H.J., Kim, B.W., Park, J.H. and Cho, S.W. 2016. Identification of NUCKS1 as a putative oncogene and immunodiagnostic marker of hepatocellular carcinoma. *Gene* 584: 47-53.

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.