



NLP siRNA (m): sc-150003

BACKGROUND

The EF-hand domain is a twelve amino acid loop motif that is commonly found in proteins that participate in calcium-binding events within the cell. EF-hand domains generally exist in a pair that, together, form a stable four-helix bundle that enables the binding of calcium ions. NLP (ninein-like protein), also known as NINL, is a 1,382 amino acid protein that localizes to both the cytoplasm and the centrosome and contains four EF-hand domains. Interacting with γ -Tubulin, NLP is involved in microtubule organization in interphase cells and, when overexpressed, causes lysosomal dispersion and interferes with mitotic spindle assembly. NLP is subject to post-translational phosphorylation by Plk, an event which disrupts the association of NLP with centrosomes.

REFERENCES

1. Nagase, T., Ishikawa, K., Suyama, M., Kikuno, R., Hirose, M., Miyajima, N., Tanaka, A., Kotani, H., Nomura, N. and Ohara, O. 1999. Prediction of the coding sequences of unidentified human genes. XIII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 6: 63-70.
2. Casenghi, M., Meraldi, P., Weinhart, U., Duncan, P.I., Körner, R. and Nigg, E.A. 2003. Polo-like kinase 1 regulates Nlp, a centrosome protein involved in microtubule nucleation. Dev. Cell 5: 113-125.
3. Casenghi, M., Barr, F.A. and Nigg, E.A. 2005. Phosphorylation of Nlp by Plk1 negatively regulates its dynein-dynactin-dependent targeting to the centrosome. J. Cell Sci. 118: 5101-5108.
4. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 609580. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Wang, Y. and Zhan, Q. 2007. Cell cycle-dependent expression of centrosomal ninein-like protein in human cells is regulated by the anaphase-promoting complex. J. Biol. Chem. 282: 17712-17719.
6. Qu, D., Qu, H., Fu, M., Zhao, X., Liu, R., Sui, L. and Zhan, Q. 2008. Increased expression of Nlp, a potential oncogene in ovarian cancer, and its implication in carcinogenesis. Gynecol. Oncol. 110: 230-236.
7. van Wijk, E., Kersten, F.F., Kartono, A., Mans, D.A., Brandwijk, K., Letteboer, S.J., Peters, T.A., Märker, T., Yan, X., Cremers, C.W., Cremers, F.P., Wolfrum, U., Roepman, R. and Kremer, H. 2009. Usher syndrome and Leber congenital amaurosis are molecularly linked via a novel isoform of the centrosomal ninein-like protein. Hum. Mol. Genet. 18: 51-64.

CHROMOSOMAL LOCATION

Genetic locus: 4930519N13Rik (mouse) mapping to 2 G3.

PRODUCT

NLP 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 NLP shRNA Plasmid (m): sc-150003-SH and NLP shRNA (m) Lentiviral Particles: sc-150003-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

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

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor NLP gene expression knockdown using RT-PCR Primer: NLP (m)-PR: sc-150003-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.