SANTA CRUZ BIOTECHNOLOGY, INC.

Nopp140 siRNA (h): sc-38127

BACKGROUND

Nopp140, previously named p130, is a nucleolar phosphoprotein that has been shown to exist in multiple forms with different sizes. Nopp140 functions both as a chaperone for import and/or export from the nucleolus and as a transcription factor. Nopp140 was originally identified from rat liver as an NLS (nuclear localization signal)-binding protein, and has been further characterized as an RNAP (RNA polymerase)-interacting protein. Nopp140 also associates with the general transcription factor TFIIB, and the protein kinase casein kinase II (CKII). CKII heavily phosphorylates Nopp140 to mediate binding of Nopp140 to NLS. Nopp140 colocalizes with another nucleolar protein, NAP57, in the nucleolus and coiled bodies, and is thought to be involved in activities carried out within the nucleolus.

REFERENCES

1. Poli, V., et al. 1990. IL-6DBP, a nuclear protein involved in interleukin-6 signal transduction, defines a new family of leucine zipper proteins related to C/EBP. Cell 63: 643-653.
2. Meier, U.T., et al. 1992. Nopp140 shuttles on tracks between nucleolus and cytoplasm. Cell 70: 127-138.
3. Pai, C.Y., et al. 1995. Cell-cycle-dependent alterations of a highly phosphorylated nucleolar protein p130 are associated with nucleogenesis. J. Cell Sci. 108: 1911-1920.
4. Chen, H.K., et al. 1997. The nucleolar phosphoprotein p130 is a GTPase/ATPase with intrinsic property to form large complexes triggered by F- and Mg^{2+}. Biochem. Biophys. Res. Commun. 230: 370-375.
5. Li, D., et al. 1997. Specific interaction between casein kinase 2 and the nucleolar protein Nopp140. J. Biol. Chem. 272: 3773-3779.
6. Miau, L.H., et al. 1997. Identification and characterization of a nucleolar phosphoprotein, Nopp140, as a transcription factor. Mol. Cell. Biol. 17: 230-239.
7. Chen, H.K., et al. 1999. Human Nopp140, which interacts with RNA polymerase I: implications for rRNA gene transcription and nucleolar structural organization. Mol. Cell. Biol. 19: 8536-8546.

CHROMOSOMAL LOCATION

Genetic locus: NOLC1 (human) mapping to 10q24.32.

PRODUCT

Nopp140 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Nopp140 shRNA Plasmid (h): sc-38127-SH and Nopp140 shRNA (h) Lentiviral Particles: sc-38127-V as alternate gene silencing products.

For independent verification of Nopp140 (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-38127A, sc-38127B and sc-38127C.

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

Nopp140 siRNA (h) is recommended for the inhibition of Nopp140 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 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

Nopp140 (E-7): sc-374033 is recommended as a control antibody for monitoring of Nopp140 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 Nopp140 gene expression knockdown using RT-PCR Primer: Nopp140 (h)-PR: sc-38127-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Sochacka, M., et al. 2022. FGF12 is a novel component of the nucleolar NOLC1/TCOF1 ribosome biogenesis complex. Cell Commun. Signal. 20: 182.

RESEARCH USE

For research use only, not for use in diagnostic procedures.