

NXT-2 siRNA (m): sc-150134

BACKGROUND

Protein transport across the nucleus is a selective, multistep process involving several cytoplasmic factors including Ran. Nuclear transport factor 2 (NTF2) regulates Ran function in a non-catalytic fashion and mediates Ran-GDP targeting to the nucleus. Nucleotide-dependent conformations of Ran alter the site of interaction that would otherwise permit the binding of NTF2 to Ran-GTP. A member of the NXT family, NXT-2 (NTF2-related export protein 2) is a 142 amino acid protein containing an NTF2 domain. NXT-2 shuttles between the nucleus and the cytoplasm, regulating protein export for NES-containing proteins. NXT-2 also plays a role in mRNA nuclear export and associates with TAP, NXF2, NXF3 and NXF5. Four isoforms are produced by alternative splicing events.

REFERENCES

1. Smith, A., Brownawell, A. and Macara, I.G. 1998. Nuclear import of Ran is mediated by the transport factor NTF2. *Curr. Biol.* 8: 1403-1406.
2. Ribbeck, K., Lipowsky, G., Kent, H.M., Stewart, M. and Görlich, D. 1998. NTF2 mediates nuclear import of Ran. *EMBO J.* 17: 6587-6598.
3. Black, B.E., Levesque, L., Holaska, J.M., Wood, T.C. and Paschal, B.M. 1999. Identification of an NTF2-related factor that binds Ran-GTP and regulates nuclear protein export. *Mol. Cell. Biol.* 19: 8616-8624.
4. Ossareh-Nazari, B., Maison, C., Black, B.E., Levesque, L., Paschal, B.M. and Dargemont, C. 2000. RanGTP-binding protein NXT-1 facilitates nuclear export of different classes of RNA *in vitro*. *Mol. Cell. Biol.* 20: 4562-4571.
5. Herold, A., Suyama, M., Rodrigues, J.P., Braun, I.C., Kutay, U., Carmo-Fonseca, M., Bork, P. and Izaurralde, E. 2000. TAP (NXF1) belongs to a multigene family of putative RNA export factors with a conserved modular architecture. *Mol. Cell. Biol.* 20: 8996-9008.
6. Online Mendelian Inheritance in Man, OMIM[™]. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 300320. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/300320>
7. Huang, H., Zhang, B., Hartenstein, P.A., Chen, J.N. and Lin, S. 2005. NXT-2 is required for embryonic heart development in zebrafish. *BMC Dev. Biol.* 5: 7.

CHROMOSOMAL LOCATION

Genetic locus: *Nxt2* (mouse) mapping to X F2.

PRODUCT

NXT-2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NXT-2 shRNA Plasmid (m): sc-150134-SH and NXT-2 shRNA (m) Lentiviral Particles: sc-150134-V as alternate gene silencing products.

For independent verification of NXT-2 (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-150134A, sc-150134B and sc-150134C.

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

NXT-2 siRNA (m) is recommended for the inhibition of NXT-2 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 NXT-2 gene expression knockdown using RT-PCR Primer: NXT-2 (m)-PR: sc-150134-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.