



SZABO SCANDIC

Part of Europa Biosite

Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!



Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

POLR3K siRNA (m): sc-152382

BACKGROUND

Eukaryotes produce three distinct classes of RNA polymerase, Pol I, II and III. Each polymerase is responsible for the synthesis of a different class of RNA. RNA polymerase III (Pol III) transcribes the 5S rRNA genes and all of the tRNA (transfer RNA) genes. POLR3K, also known as DNA-directed RNA polymerase III subunit RPC11, is a 108 amino acid nuclear protein that is one of the 17 subunits that comprise Pol III. Specifically, POLR3K is a DNA-dependent RNA polymerase that uses the four ribonucleoside triphosphates to catalyze the transcription of DNA to RNA. The gene encoding POLR3K maps to human chromosome 16p13.3, which encodes over 900 genes in approximately 90 million base pairs and is associated with a variety of genetic disorders.

REFERENCES

1. Ittmann, M., Greco, A. and Basilico, C. 1987. Isolation of the human gene that complements a temperature-sensitive cell cycle mutation in BHK cells. *Mol. Cell. Biol.* 7: 3386-3393.
2. Ittmann, M., Ali, J., Greco, A. and Basilico, C. 1993. The gene complementing a temperature-sensitive cell cycle mutant of BHK cells is the human homologue of the yeast RPC53 gene, which encodes a subunit of RNA polymerase C (III). *Cell Growth Differ.* 4: 503-511.
3. Ittmann, M.M. 1994. Cell cycle control of the BN51 cell cycle gene which encodes a subunit of RNA polymerase III. *Cell Growth Differ.* 5: 783-788.
4. Jackson, A.J., Ittmann, M. and Pugh, B.F. 1995. The BN51 protein is a polymerase (Pol)-specific subunit of RNA Pol III which reveals a link between Pol III transcription and pre-rRNA processing. *Mol. Cell. Biol.* 15: 94-101.
5. Chong, S.S., Hu, P. and Hernandez, N. 2001. Reconstitution of transcription from the human U6 small nuclear RNA promoter with eight recombinant polypeptides and a partially purified RNA polymerase III complex. *J. Biol. Chem.* 276: 20727-20734.
6. Hu, P., Wu, S., Sun, Y., Yuan, C.C., Kobayashi, R., Myers, M.P. and Hernandez, N. 2002. Characterization of human RNA polymerase III identifies orthologues for *Saccharomyces cerevisiae* RNA polymerase III subunits. *Mol. Cell. Biol.* 22: 8044-8055.
7. Nikitina, T.V. and Tishchenko, L.I. 2005. RNA polymerase III transcription apparatus: structure and transcription regulation. *Mol. Biol.* 39: 179-192.
8. Proshkina, G.M., Shematorova, E.K., Proshkin, S.A., Zaros, C., Thuriaux, P. and Shpakovski, G.V. 2006. Ancient origin, functional conservation and fast evolution of DNA-dependent RNA polymerase III. *Nucleic Acids Res.* 34: 3615-3624.
9. Kim, D.H., Saetrom, P., Snøve, O. and Rossi, J.J. 2008. MicroRNA-directed transcriptional gene silencing in mammalian cells. *Proc. Natl. Acad. Sci. USA* 105: 16230-16235.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CHROMOSOMAL LOCATION

Genetic locus: Polr3k (mouse) mapping to 2 H4.

PRODUCT

POLR3K 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 POLR3K shRNA Plasmid (m): sc-152382-SH and POLR3K shRNA (m) Lentiviral Particles: sc-152382-V as alternate gene silencing products.

For independent verification of POLR3K (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-152382A, sc-152382B and sc-152382C.

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

POLR3K siRNA (m) is recommended for the inhibition of POLR3K 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 POLR3K gene expression knockdown using RT-PCR Primer: POLR3K (m)-PR: sc-152382-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.