

TFIIIC35 siRNA (h): sc-95230

BACKGROUND

RNA polymerase (pol) III synthesizes tRNA, 5s rRNA, 7SL RNA and U6 snRNA and is overexpressed in many transformed cell lines and tumors *in vivo*, since cells must duplicate its protein components before division. Therefore, in order to maintain rapid growth, cells must produce a high level of Pol III transcribed RNA, which requires the presence of the TFIIB and TFIIC2 transcription factor complexes. The TFIIC2 complex recruits RNA pol III and TFIIB to promoter elements and may be a key component in the deregulation of malignant cells. TFIIC35 (transcription factor IIC 35 kDa subunit), also known as GTF3C6 (general transcription factor 3C polypeptide 6), CDA020 or NPD020, is a 213 amino acid nuclear protein that belongs to the TFIIC subunit 6 family. TFIIC35 exists as a member of the DNA-binding TFIIC2 subcomplex, which interacts with tRNA and virus-associated RNA promoters, and consists of TFIIC35, TFIIC63, TFIIC90, TFIIC102, TFIIC110 and TFIIC220.

REFERENCES

1. Lagna, G., Kovelman, R., Sukegawa, J. and Roeder, R.G. 1994. Cloning and characterization of an evolutionarily divergent DNA-binding subunit of mammalian TFIIC. *Mol. Cell. Biol.* 14: 3053-3064.
2. Hsieh, Y.J., Kundu, T.K., Wang, Z., Kovelman, R. and Roeder, R.G. 1999. The TFIIC90 subunit of TFIIC interacts with multiple components of the RNA polymerase III machinery and contains a histone-specific acetyltransferase activity. *Mol. Cell. Biol.* 19: 7697-7704.
3. Brown, T.R., Scott, P.H., Stein, T., Winter, A.G. and White, R.J. 2000. RNA polymerase III transcription: its control by tumor suppressors and its deregulation by transforming agents. *Gene Expr.* 9: 15-28.
4. Schramm, L., Pendergrast, P.S., Sun, Y. and Hernandez, N. 2000. Different human TFIIB activities direct RNA polymerase III transcription from TATA-containing and TATA-less promoters. *Genes Dev.* 14: 2650-2663.
5. Winter, A.G., Sourvinos, G., Allison, S.J., Tosh, K., Scott, P.H., Spandidos, D.A. and White, R.J. 2000. RNA polymerase III transcription factor TFIIC2 is overexpressed in ovarian tumors. *Proc. Natl. Acad. Sci. USA* 97: 12619-12624.
6. Dumay-Odelot, H., Marck, C., Durrieu-Gaillard, S., Lefebvre, O., Jourdain, S., Prochazkova, M., Pflieger, A. and Teichmann, M. 2007. Identification, molecular cloning, and characterization of the sixth subunit of human transcription factor TFIIC. *J. Biol. Chem.* 282 17179-17189.
7. Online Mendelian Inheritance in Man, OMIM[™]. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 611784. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: GTF3C6 (human) mapping to 6q21.

PROTOCOLS

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

PRODUCT

TFIIC35 siRNA (h) is a pool of 2 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 TFIIC35 shRNA Plasmid (h): sc-95230-SH and TFIIC35 shRNA (h) Lentiviral Particles: sc-95230-V as alternate gene silencing products.

For independent verification of TFIIC35 (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-95230A and sc-95230B.

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

TFIIC35 siRNA (h) is recommended for the inhibition of TFIIC35 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 TFIIC35 gene expression knockdown using RT-PCR Primer: TFIIC35 (h)-PR: sc-95230-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.