

Med15 siRNA (h): sc-75767

BACKGROUND

In mammalian cells, transcription is regulated in part by high molecular weight co-activating complexes that mediate signals between transcriptional activators and RNA polymerase II (Pol II). The mediator complex is one such multiprotein structure that functions as a bridge between regulatory proteins and Pol II, thereby regulating Pol II-dependent transcription. Med15 (mediator of RNA polymerase II transcription subunit 15), also known as ARC105, CTG7A, PCQAP, TIG1 or TNRC7, is a 788 amino acid subunit of the mediator complex that localizes to both the nucleus and the cytoplasm. Expressed ubiquitously with highest expression in placenta and blood, Med15 participates in the regulation of Pol II-mediated gene expression and is thought to play a key role in the control of lipid homeostasis. The gene encoding Med15 is located in a region on chromosome 22 that is deleted in DiGeorge syndrome, suggesting that the loss of Med15 may be associated with this rare congenital disease. Due to alternative splicing events, Med15 is expressed as two isoforms.

REFERENCES

1. Naar, A.M., et al. 1999. Composite co-activator ARC mediates chromatin-directed transcriptional activation. *Nature* 398: 828-832.
2. Abraham, S. and Solomon, W.B. 2000. A novel glutamine-rich putative transcriptional adaptor protein (TIG-1), preferentially expressed in placental and bone-marrow tissues. *Gene* 255: 389-400.
3. Berti, L., et al. 2001. Isolation and characterization of a novel gene from the DiGeorge chromosomal region that encodes for a mediator subunit. *Genomics* 74: 320-332.

CHROMOSOMAL LOCATION

Genetic locus: MED15 (human) mapping to 22q11.21.

PRODUCT

Med15 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Med15 shRNA Plasmid (h): sc-75767-SH and Med15 shRNA (h) Lentiviral Particles: sc-75767-V as alternate gene silencing products.

For independent verification of Med15 (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-75767A, sc-75767B and sc-75767C.

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

Med15 siRNA (h) is recommended for the inhibition of Med15 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.

GENE EXPRESSION MONITORING

Med15 (E-8): sc-518192 is recommended as a control antibody for monitoring of Med15 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 Med15 gene expression knockdown using RT-PCR Primer: Med15 (h)-PR: sc-75767-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Syring, I., et al. 2018. The knockdown of the Mediator complex subunit MED15 restrains urothelial bladder cancer cells' malignancy. *Oncol. Lett.* 16: 3013-3021.
2. Weiten, R., et al. 2018. The Mediator complex subunit MED15, a promoter of tumour progression and metastatic spread in renal cell carcinoma. *Cancer Biomark.* 21: 839-847.

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.