

# C1D siRNA (m): sc-141839

## BACKGROUND

C1D, also known as SUNCOR, is a nuclear DNA-binding protein that localizes to the nucleus and cytoplasm and participates in processing of the 5.8S rRNA. Expressed ubiquitously with highest expression in thyroid, salivary gland, hippocampus and medulla oblongata, C1D forms a multi-protein complex with MPP6 (M phase phosphoprotein 6) and EXOSC10 (exosome component 10). This complex is responsible, in part, for recruiting the exosome to pre-rRNA and it functions to mediate 3'-5' rRNA processing. Additionally, C1D can induce transcriptional repression and apoptosis through interaction with Rev-erb $\alpha$  (V-erbA-related protein EAR-1)/TR $\beta$  (thyroid hormone receptor  $\beta$ ) and p53, respectively. C1D, a 141 amino acid protein, is also implicated in DNA repair mechanisms, as well as DNA-PK (DNA-dependent protein kinase) activation.

## REFERENCES

1. Zamir, I., et al. 1997. Cloning and characterization of a corepressor and potential component of the nuclear hormone receptor repression complex. *Proc. Natl. Acad. Sci. USA* 94: 14400-14405.
2. Yavuzer, U., et al. 1998. DNA end-independent activation of DNA-PK mediated via association with the DNA-binding protein C1D. *Genes Dev.* 12: 2188-2199.
3. Haataja, L., et al. 1998. Identification of a novel Rac3-interacting protein C1D. *Int. J. Mol. Med.* 1: 665-670.
4. Rothbarth, K., et al. 1999. Induction of apoptosis by overexpression of the DNA-binding and DNA-PK-activating protein C1D. *J. Cell Sci.* 112: 2223-2232.
5. Rothbarth, K., et al. 2001. Promoter of the gene encoding the 16 kDa DNA-binding and apoptosis-inducing C1D protein. *Biochim. Biophys. Acta* 1518: 271-275.
6. Erdemir, T., et al. 2002. DNA damage-dependent interaction of the nuclear matrix protein C1D with Translin-associated factor X (TRAX). *J. Cell Sci.* 115: 207-216.
7. Mitchell, P., et al. 2003. Rrp47p is an exosome-associated protein required for the 3' processing of stable RNAs. *Mol. Cell. Biol.* 23: 6982-6992.

## CHROMOSOMAL LOCATION

Genetic locus: C1d (mouse) mapping to 11 A2.

## PRODUCT

C1D 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see C1D shRNA Plasmid (m): sc-141839-SH and C1D shRNA (m) Lentiviral Particles: sc-141839-V as alternate gene silencing products.

For independent verification of C1D (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-141839A, sc-141839B and sc-141839C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

C1D siRNA (m) is recommended for the inhibition of C1D 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  $\mu$ M in 66  $\mu$ 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 C1D gene expression knockdown using RT-PCR Primer: C1D (m)-PR: sc-141839-PR (20  $\mu$ 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](http://www.scbt.com) for detailed protocols and support products.