

# RCOR2 siRNA (h): sc-96631

## BACKGROUND

In mammals, the CoREST ([co]repressor for element-1-silencing transcription factor) complex is a chromatin-modifying structure that, through interactions with NRSF (neuron restrictive silencer factor), regulates neuronal gene expression and neuronal cell fate. RCOR2 (REST corepressor 2) and RCOR3 (REST corepressor 3) are nuclear proteins that each contain one ELM2 domain and two SANT domains. Members of the CoREST family, RCOR2 and RCOR3 are thought to function as components of the CoREST complex, possibly playing a role in the transcriptional repression of neuronal genes. Additionally, RCOR2 and RCOR3, in conjunction with CoREST, can form immunocomplexes with a variety of histone-modifying genes, including G9a and HDAC1. Via these protein complexes, RCOR2 and RCOR3 can further regulate transcription by controlling the methylation and demethylation of target genes during early development. While RCOR2 is expressed as only one known isoform, RCOR3 exists as two isoforms due to alternative splicing events.

## REFERENCES

- Andres, M.E., et al. 1999. CoREST: a functional corepressor required for regulation of neural-specific gene expression. *Proc. Natl. Acad. Sci. USA* 96: 9873-9878.
- Dallman, J.E., et al. 2004. A conserved role but different partners for the transcriptional corepressor CoREST in fly and mammalian nervous system formation. *J. Neurosci.* 24: 7186-7193.
- Ballas, N., et al. 2005. REST and its corepressors mediate plasticity of neuronal gene chromatin throughout neurogenesis. *Cell* 121: 645-657.
- Lee, M.G., et al. 2005. An essential role for CoREST in nucleosomal histone 3 lysine 4 demethylation. *Nature* 437: 432-435.
- Gu, H., et al. 2005. Components of the REST/CoREST/histone deacetylase repressor complex are disrupted, modified, and translocated in HSV-1-infected cells. *Proc. Natl. Acad. Sci. USA* 102: 7571-7576.
- Lakowski, B., et al. 2006. CoREST-like complexes regulate chromatin modification and neuronal gene expression. *J. Mol. Neurosci.* 29: 227-239.
- Yang, M., et al. 2006. Structural basis for CoREST-dependent demethylation of nucleosomes by the human LSD1 histone demethylase. *Mol. Cell* 23: 377-387.

## CHROMOSOMAL LOCATION

Genetic locus: RCOR2 (human) mapping to 11q13.1.

## PRODUCT

RCOR2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see RCOR2 shRNA Plasmid (h): sc-96631-SH and RCOR2 shRNA (h) Lentiviral Particles: sc-96631-V as alternate gene silencing products.

For independent verification of RCOR2 (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-96631A, sc-96631B and sc-96631C.

## 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

RCOR2 siRNA (h) is recommended for the inhibition of RCOR2 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  $\mu$ 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 RCOR2 gene expression knockdown using RT-PCR Primer: RCOR2 (h)-PR: sc-96631-PR (20  $\mu$ l, 548 bp). 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.