SANTA CRUZ BIOTECHNOLOGY, INC.

CoREST siRNA (h): sc-38131

BACKGROUND

NRSF (neuron-restrictive silencer factor, also designated XBR and REST for RE1-silencing factor) is a silencer protein that represses neuronal gene transcription in non-neuronal cells. NRSF-mediated repression requires histone deacetylase activity because repressed genes are associated with hypoacetylated chromatin. HDAC is recruited to the NRSF repressor complex by two co-repressors, Sin3A and CoREST. CoREST interacts with a single zinc finger motif in the carboxy-terminal repressor domain of NRSF, whereas Sin3A interacts with NRSF's amino-terminal repressor domain. In addition, CoREST interacts with HDAC through a SANT domain, which is found in other HDAC interacting proteins such as NCoR, MTA1 and MTA2. CoREST is an integral component of the NRSF repressor complex. Its functionality has been conserved in several species, including human, mouse, *Xenopus* and *C. elegans*.

REFERENCES

1. 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.
2. Grimes, J.A., et al. 2000. The co-repressor mSin3A is a functional component of the REST-CoREST repressor complex. J. Biol. Chem. 275: 9461-9467.
3. Kojima, T., et al. 2001. Cell-type non-selective transcription of mouse and human genes encoding neural-restrictive silencer factor. Brain Res. Mol. 90: 174-186.
4. You, A., et al. 2001. CoREST is an integral component of the CoREST-human histone deacetylase complex. Proc. Natl. Acad. Sci. USA 98: 1454-1458.
5. Tontsch, S., et al. 2001. Identification and localization of M-CoREST (1A13), a mouse homologue of the human transcriptional co-repressor CoREST, in the developing mouse CNS. Mech. Dev. 108: 165-169.
6. Battaglioli, E., et al. 2002. REST repression of neuronal genes requires components of the hSWI.SNF complex. J. Biol. Chem. 277: 41038-41045.
7. Hakimi, M.A., et al. 2002. A core-BRAF35 complex containing histone deacetylase mediates repression of neuronal-specific genes. Proc. Natl. Acad. Sci. USA 99: 7420-7425.

CHROMOSOMAL LOCATION

Genetic locus: RCOR1 (human) mapping to 14q32.31.

PRODUCT

CoREST 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CoREST shRNA Plasmid (h): sc-38131-SH and CoREST shRNA (h) Lentiviral Particles: sc-38131-V as alternate gene silencing products.

For independent verification of CoREST (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-38131A, sc-38131B and sc-38131C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CoREST siRNA (h) is recommended for the inhibition of CoREST 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 µM in 66 µl. 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

CoREST (H-8): sc-376567 is recommended as a control antibody for monitoring of CoREST 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 CoREST gene expression knockdown using RT-PCR Primer: CoREST (h)-PR: sc-38131-PR (20 µl). 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 for detailed protocols and support products.