

# CREG siRNA (m): sc-142565

## BACKGROUND

The adenovirus E1A protein both activates and represses gene expression to promote cellular proliferation and inhibit differentiation. CREG (cellular repressor of E1A-stimulated genes) is a cellular protein that antagonizes transcriptional activation and cellular transformation by E1A. CREG was initially isolated in a yeast two-hybrid screen due to its interaction with the TATA-binding protein, TBP. Binding sites for E2F, a key transcriptional regulator of cell cycle progression, are required for repression of the adeno-virus E2 promoter by CREG, and CREG was shown to inhibit activation by E2F. CREG is broadly expressed in adult tissues and is regulated during embryonic development. CREG is a secreted glycoprotein which enhances differentiation of mouse embryonic stem cells and human NTERA-2 cells. CREG activity may contribute to the transcriptional control of cell growth and differentiation.

## REFERENCES

1. Whyte, P., Williamson, N.M. and Harlow, E. 1989. Cellular targets for transformation by the adenovirus E1A proteins. *Cell* 56: 67-75.
2. Stein, R.W., Corrigan, M., Yaciuk, P., Whelan, J. and Moran, E. 1990. Analysis of E1A-mediated growth regulation functions: binding of the 300-kilodalton cellular product correlates with E1A enhancer repression function and DNA synthesis-inducing activity. *J. Virol.* 64: 4421-4427.
3. Weintraub, S.J., Chow, K.N., Luo, R.X., Zhang, S.H., He, S. and Dean, D.C. 1995. Mechanism of active transcriptional repression by the retinoblastoma protein. *Nature* 375: 812-815.
4. Veal, E., Eisenstein, M., Tseng, Z.H. and Gill, G. 1998. A cellular repressor of E1A-stimulated genes that inhibits activation by E2F. *Mol. Cell. Biol.* 18: 5032-5041.
5. Veal, E., Groisman, R., Eisenstein, M. and Gill, G. 2000. The secreted glycoprotein CREG enhances differentiation of NTERA-2 human embryonal carcinoma cells. *Oncogene* 19: 2120-2128.

## CHROMOSOMAL LOCATION

Genetic locus: Creg1 (mouse) mapping to 1 H2.3.

## PRODUCT

CREG 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 CREG shRNA Plasmid (m): sc-142565-SH and CREG shRNA (m) Lentiviral Particles: sc-142565-V as alternate gene silencing products.

For independent verification of CREG (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-142565A, sc-142565B and sc-142565C.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## 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

CREG siRNA (m) is recommended for the inhibition of CREG 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 CREG gene expression knockdown using RT-PCR Primer: CREG (m)-PR: sc-142565-PR (20  $\mu$ l, 543 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Tian, X., Yan, C., Liu, M., Zhang, Q., Liu, D., Liu, Y., Li, S. and Han, Y. 2017. CREG1 heterozygous mice are susceptible to high fat diet-induced obesity and Insulin resistance. *PLoS ONE* 12: e0176873.
2. Liu, D., Tian, X., Liu, Y., Song, H., Cheng, X., Zhang, X., Yan, C. and Han, Y. 2021. CREG ameliorates the phenotypic switching of cardiac fibroblasts after myocardial infarction via modulation of CDC42. *Cell Death Dis.* 12: 355.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.