SANTA CRUZ BIOTECHNOLOGY, INC.

E4F1 siRNA (h): sc-93081

BACKGROUND

E4F1 (E4F transcription factor 1), also known as E4F, is a 784 amino acid protein that localizes to both the nucleus and the cytoplasm and contains nine C_2H_2-type zinc fingers. Expressed ubiquitously in adult and fetal tissues, E4F1 exists as a homodimer that binds DNA and is thought to act as a transcriptional repressor and may also play a role in cell survival and growth via cell cycle control. Additionally, E4F1 is thought to function as a ubiquitin ligase that mediates the ubiquitination (and subsequent degradation) of target proteins and may be involved in the p53 tumor suppressor pathway. E4F1, which may be post-translationally phosphorylated or sumoylated, is subject to proteolytic cleavage which results in the creation of a short peptide with specific DNA binding capabilities.

REFERENCES

1. Fernandes, E.R. and Rooney, R.J. 1997. The adenovirus E1A-regulated transcription factor E4F is generated from the human homolog of nuclear factor phiAP3. Mol. Cell. Biol. 17: 1890-1903.
2. Saccone, S., et al. 1998. Assignment of the E1A-regulated transcription factor E4F gene (E4F1) to human chromosome band 16p13.3 by *in situ* hybridization and somatic cell hybrids. Cytogenet. Cell Genet. 82: 99-100.
3. Rooney, R.J., et al. 1998. Chromosomal location and tissue expression of the gene encoding the adenovirus E1A-regulated transcription factor E4F in humans and mice. Mamm. Genome 9: 320-323.
4. Sandy, P., et al. 2000. p53 is involved in the p120E4F-mediated growth arrest. Oncogene 19: 188-199.
5. Fajas, L., et al. 2000. pRB binds to and modulates the transrepressing activity of the E1A-regulated transcription factor p120E4F. Proc. Natl. Acad. Sci. USA 97: 7738-7743.
6. Nakamura, Y., et al. 2004. E4F1, a novel estrogen-responsive gene in possible atheroprotection, revealed by microarray analysis. Am. J. Pathol. 165: 2019-2031.

CHROMOSOMAL LOCATION

Genetic locus: E4F1 (human) mapping to 16p13.3.

PRODUCT

E4F1 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 E4F1 shRNA Plasmid (h): sc-93081-SH and E4F1 shRNA (h) Lentiviral Particles: sc-93081-V as alternate gene silencing products.

For independent verification of E4F1 (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-93081A, sc-93081B and sc-93081C.

PROTOCOLS

See our web site at 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 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

E4F1 siRNA (h) is recommended for the inhibition of E4F1 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

E4F1 (D-12): sc-514718 is recommended as a control antibody for monitoring of E4F1 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 E4F1 gene expression knockdown using RT-PCR Primer: E4F1 (h)-PR: sc-93081-PR (20 µl, 493 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.