

E2F-8 siRNA (h): sc-96849

BACKGROUND

E2F-8 is an 867 amino acid nuclear protein that contains two DNA-binding domains and belongs to a large family of transcription factors that includes E2F-1, E2F-2, E2F-3, E2F-4, E2F-5, E2F-6 and E2F-7. Existing as a homodimer or as a heterodimer with E2F-7, E2F-8 functions to bind DNA at the E2 recognition site, 5'-TTTC[CG]CGC-3', thereby inhibiting E2F-dependent transcription and regulating the expression of genes that are required for cell cycle progression. The gene encoding E2F-8 maps to human chromosome 11, which houses over 1,400 genes and comprises nearly 4% of the human genome. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are associated with defects in genes that maps to chromosome 11.

REFERENCES

1. Di Stefano, L., et al. 2003. E2F7, a novel E2F featuring DP-independent repression of a subset of E2F-regulated genes. *EMBO J.* 22: 6289-6298.
2. Maiti, B., et al. 2005. Cloning and characterization of mouse E2F8, a novel mammalian E2F family member capable of blocking cellular proliferation. *J. Biol. Chem.* 280: 18211-18220.
3. Christensen, J., et al. 2005. Characterization of E2F8, a novel E2F-like cell-cycle regulated repressor of E2F-activated transcription. *Nucleic Acids Res.* 33: 5458-5470.
4. Logan, N., et al. 2005. E2F-8: an E2F family member with a similar organization of DNA-binding domains to E2F-7. *Oncogene* 24: 5000-5004.
5. Li, J., et al. 2008. Synergistic function of E2F7 and E2F8 is essential for cell survival and embryonic development. *Dev. Cell* 14: 62-75.

CHROMOSOMAL LOCATION

Genetic locus: E2F8 (human) mapping to 11p15.1.

PRODUCT

E2F-8 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see E2F-8 shRNA Plasmid (h): sc-96849-SH and E2F-8 shRNA (h) Lentiviral Particles: sc-96849-V as alternate gene silencing products.

For independent verification of E2F-8 (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-96849A, sc-96849B and sc-96849C.

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

APPLICATIONS

E2F-8 siRNA (h) is recommended for the inhibition of E2F-8 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 μ M in 66 μ 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.

GENE EXPRESSION MONITORING

E2F-8 (B-9): sc-514064 is recommended as a control antibody for monitoring of E2F-8 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-IgG λ BP-HRP: sc-516132 or m-IgG λ BP-HRP (Cruz Marker): sc-516132-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-IgG λ BP-FITC: sc-516185 or m-IgG λ BP-PE: sc-516186 (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 E2F-8 gene expression knockdown using RT-PCR Primer: E2F-8 (h)-PR: sc-96849-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Drelon, C., et al. 2016. EZH2 is overexpressed in adrenocortical carcinoma and is associated with disease progression. *Hum. Mol. Genet.* 25: 2789-2800.

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.