SANTA CRUZ BIOTECHNOLOGY, INC.

# EDF1 siRNA (h): sc-77227

## BACKGROUND

Angiogenesis is the process of neovascularization and formation of new blood vessels from the established micro-circulation. Endothelial cell differentiation is required for angiogenesis. EDF1 (endothelial differentiation-related factor 1), also known as MBF1 (multiprotein-bridging factor 1) is a 148 amino acid transcriptional co-activator that modulates transcription of genes involved in endothelial differentiation. When endothelial cells are induced to differentiate *in vitro,* EDF1 is downregulated, leading to inhibition of cell growth and cell polarization. EDF1 binds calmodulin thorough its IQ domain and regulates nitric oxide synthase activity through calmodulin sequestration in the cytoplasm. Though ubiquitously expressed, EDF1 is most abundant in adult liver, heart, adipose tissues, intestine and pancreas. In fetal tissues, EDF1 is most abundant in kidney. There are two isoforms of EDF1 that are produced as a result of alternative splicing events.

## REFERENCES


1. Dragoni, I., et al. 1998. EDF-1, a novel gene product down-regulated in human endothelial cell differentiation. J. Biol. Chem. 273: 31119-31124.
2. Kabe, Y., et al. 1999. The role of human MBF1 as a transcriptional co-activator. J. Biol. Chem. 274: 34196-34202.
3. Mariotti, M., et al. 2000. Interaction between endothelial differentiation-related factor-1 and calmodulin *in vitro* and *in vivo*. J. Biol. Chem. 275: 24047-24051.
4. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 605107. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Brendel, C., et al. 2002. Multiprotein bridging factor-1 (MBF-1) is a cofactor for nuclear receptors that regulate lipid metabolism. Mol. Endocrinol. 16: 1367-1377.
6. Ballabio, E., et al. 2004. The dual role of endothelial differentiation-related factor-1 in the cytosol and nucleus: modulation by protein kinase A. Cell. Mol. Life Sci. 61: 1069-1074.
7. Bolognese, F., et al. 2006. Characterization of the human EDF-1 minimal promoter: involvement of NFY and Sp1 in the regulation of basal transcription. Gene 374: 87-95.


## CHROMOSOMAL LOCATION

Genetic locus: EDF1 (human) mapping to 9q34.3.

## PRODUCT

EDF1 siRNA (h) is a target-specific 19-25 nt siRNA 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 EDF1 shRNA Plasmid (h): sc-77227-SH and EDF1 shRNA (h) Lentiviral Particles: sc-77227-V as alternate gene silencing products.

## RESEARCH USE

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

## 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

EDF1 siRNA (h) is recommended for the inhibition of EDF1 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor EDF1 gene expression knockdown using RT-PCR Primer: EDF1 (h)-PR: sc-77227-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.