

EFP siRNA (h): sc-37825

BACKGROUND

EFP (estrogen-responsive finger protein) is a transcription factor, the content of which is regulated by estrogen. It has been identified as a member of the RING finger family, a family of proteins containing a Zn²⁺ binding domain designated the C3HC4 or RING finger. EFP also contains two B box domains and a coiled-coil region (a transactivation domain), which are characteristic of a subgroup of the RING finger family. Estrogen regulates the growth, differentiation and function of target cells in a variety of tissues; however, few genes have been shown to be directly regulated by estrogen. It has been speculated that EFP may mediate estrogen activity in a signaling cascade in which estrogen-ER binding to the estrogen responsive element (ERE) downstream of the EFP gene upregulates EFP gene expression. The EFP gene product may then activate transcription of secondary estrogen responsive genes. Additional studies indicate that the EFP promoter may be regulated by multiple elements and their interacting factors.

REFERENCES

1. Evans, R.M. 1988. The steroid and thyroid hormone receptor superfamily. *Science* 240: 889-895.
2. Green, S., et al. 1988. Nuclear receptors enhance our understanding of transcription regulation. *Trends Genet.* 4: 309-314.
3. Inoue, S., et al. 1993. Genomic binding-site cloning reveals an estrogen-responsive gene that encodes a RING finger protein. *Proc. Natl. Acad. Sci. USA* 90: 11117-11121.
4. Orimo, A., et al. 1995. Molecular cloning, structure and expression of mouse estrogen-responsive finger protein EFP. Co-localization with estrogen receptor mRNA in target organs. *J. Biol. Chem.* 270: 24406-24013.

CHROMOSOMAL LOCATION

Genetic locus: TRIM25 (human) mapping to 17q22.

PRODUCT

EFP 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 EFP shRNA Plasmid (h): sc-37825-SH and EFP shRNA (h) Lentiviral Particles: sc-37825-V as alternate gene silencing products.

For independent verification of EFP (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-37825A, sc-37825B and sc-37825C.

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

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

EFP (E-4): sc-166926 is recommended as a control antibody for monitoring of EFP 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 EFP gene expression knockdown using RT-PCR Primer: EFP (h)-PR: sc-37825-PR (20 µl, 512 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Dong, X.Y., et al. 2012. Oestrogen causes ATBF1 protein degradation through the oestrogen-responsive E3 ubiquitin ligase EFP. *Biochem. J.* 444: 581-590.

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.