

FBP2 siRNA (h): sc-44831

BACKGROUND

Activation of FUSE, the far-upstream element, is required for the proper expression of the mammalian gene c-Myc in undifferentiated cells. The binding of FBP (FUSE-binding protein or far upstream element binding protein) to FUSE is necessary for c-Myc expression, indicating that FBP functions as a growth-dependent regulator of c-Myc expression. Isolated from proliferating HL60 cells, FBP, FBP2, and FBP3 comprise a family of single-stranded DNA-binding proteins that specifically bind to FUSE elements. The FBP transcription factors share a conserved central DNA-binding domain and show significant homology in their carboxyl-terminal activation domains. Expression of FBP is detected in undifferentiated cells and is substantially decreased following cellular differentiation.

REFERENCES

1. Avigan, M.I., et al. 1990. A far upstream element stimulates c-Myc expression in undifferentiated leukemia cells. *J. Biol. Chem.* 265: 18538-18545.
2. Duncan, R.D., et al. 1994. A sequence-specific, single strand binding protein activates the far upstream of c-Myc and defines a new DNA binding motif. *Genes Dev.* 8: 465-480.
3. Bazar, L., et al. 1995. A transactivator of c-Myc is coordinately regulated with the proto-oncogene during cellular growth. *Oncogene* 10: 2229-2238.

CHROMOSOMAL LOCATION

Genetic locus: KHSRP (human) mapping to 19p13.3.

PRODUCT

FBP2 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 FBP2 shRNA Plasmid (h): sc-44831-SH and FBP2 shRNA (h) Lentiviral Particles: sc-44831-V as alternate gene silencing products.

For independent verification of FBP2 (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-44831A, sc-44831B and sc-44831C.

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

FBP2 siRNA (h) is recommended for the inhibition of FBP2 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

FBP2 (4C10): sc-293476 is recommended as a control antibody for monitoring of FBP2 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 κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 FBP2 gene expression knockdown using RT-PCR Primer: FBP2 (h)-PR: sc-44831-PR (20 μ l, 564 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Russo, A., et al. 2011. Autoregulatory circuit of human rpl3 expression requires hnRNP H1, NPM and KHSRP. *Nucleic Acids Res.* 37: 7576-7585.
2. Otsuka, M., et al. 2011. Receptor for activated protein kinase C: requirement for efficient microRNA function and reduced expression in hepatocellular carcinoma. *PLoS ONE* 6: e24359.
3. Liu, W.H., et al. 2012. CIL-102 induces matrix metalloproteinase-2 (MMP-2)/MMP-9 down-regulation via simultaneous suppression of genetic transcription and mRNA stability. *Int. J. Biochem. Cell Biol.* 44: 2212-2222.
4. Chowdhury, S., et al. 2013. IL-17 attenuates degradation of ARE-mRNAs by changing the cooperation between AU-binding proteins and microRNA16. *PLoS Genet.* 9: e1003747.

RESEARCH USE

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