

ZBP-89 siRNA (m): sc-38640

BACKGROUND

ZBP-89, also known as BFCOL1, BERF1 and ZNF 148, is a zinc finger transcription factor that is universally expressed. ZBP-89, a Krüppel-like repressor protein, is the silencer element binding factor for Vimentin. ZBP-89 has been shown to bind to GC-rich DNA elements in promoters for gastrin, ornithine decarboxylase and the cyclin-dependent kinase inhibitor p21 (also designated Cip1 or WAF1). ZBP-89 expression is induced by *trans*-retinoic acid or butyrate, which also induces terminal differentiation of colon cancer cells. ZBP-89 cooperates with histone acetyltransferase coactivator p300 in the regulation of p21, a cyclin-dependent kinase inhibitor whose associated gene is a target gene of p53. ZBP-89 also regulates cell proliferation, in part, through its ability to directly bind the p53 protein and retard its nuclear export. Elevated levels of ZBP-89 induce growth arrest and apoptosis in human gastrointestinal cells.

REFERENCES

1. Taniuchi, T., et al. 1997. Overexpression of ZBP-89, a zinc finger DNA binding protein, in gastric cancer. *Biochem. Biophys. Res. Commun.* 233: 154-160.
2. Wiecek, E., et al. 2000. The zinc finger repressor, ZBP-89, binds to the silencer element of the human Vimentin gene and complexes with the transcriptional activator, Sp1. *J. Biol. Chem.* 275: 12879-12888.
3. Bai, L. and Merchant, J. 2001. ZBP-89 promotes growth arrest through stabilization of p53. *Mol. Cell. Biol.* 21: 4670-4683.
4. Yamada, A., et al. 2001. Identification and characterization of a transcriptional regulator for the Lck proximal promoter. *J. Biol. Chem.* 276: 18082-18089.

CHROMOSOMAL LOCATION

Genetic locus: Zfp148 (mouse) mapping to 16 B3.

PRODUCT

ZBP-89 siRNA (m) 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 ZBP-89 shRNA Plasmid (m): sc-38640-SH and ZBP-89 shRNA (m) Lentiviral Particles: sc-38640-V as alternate gene silencing products.

For independent verification of ZBP-89 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-38640A, sc-38640B and sc-38640C.

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

ZBP-89 siRNA (m) is recommended for the inhibition of ZBP-89 expression in mouse 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

ZBP-89 (H-7): sc-137171 is recommended as a control antibody for monitoring of ZBP-89 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 ZBP-89 gene expression knockdown using RT-PCR Primer: ZBP-89 (m)-PR: sc-38640-PR (20 μ l, 445 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Mazuy, C., et al. 2013. Palmitate increases Nur77 expression by modulating ZBP89 and Sp1 binding to the Nur77 proximal promoter in pancreatic β -cells. *FEBS Lett.* 587: 3883-3890.

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.