SANTA CRUZ BIOTECHNOLOGY, INC.

BTEB1 siRNA (m): sc-37717

BACKGROUND

Members of the C_2H_2 zinc finger family bind GC-rich motifs widely distributed in gene promoters, resulting in distinct activation or repression of transcriptional activities. In addition to Sp1, Sp2, Sp3, and Sp4, the basic transcription element binding proteins-1 and -2 (BTEB1 and BTEB2, respectively), belong to this family of transcriptional regulators. BTEB1 regulates transcription by binding either a single GC-box or tandemly repeated GC-boxes within the promoter. Predominantly localized to the nuclei of endometrial luminal and glandular epithelial cells, BTEB1 expression is both acetaldehyde and UV inducible. BTEB1 plays a regulatory role in pregnancy-associated endometrial epithelial gene expression and also mediates JNK-dependent αI(I) collagen gene expression in hepatic stellate cells.

REFERENCES

1. Kikuchi, Y., Sogawa, K., Watanabe, N., Kobayashi, A. and Fujii-Kuriyama, Y. 1996. Purification and characterization of the DNA-binding domain of BTEB, a GC box-binding transcription factor, expressed in *Escherichia coli*. J. Biochem. 119: 309-313.
2. Wang, Y., Michel, F.J., Wing, A., Simmen, F.A. and Simmen, R.C. 1997. Cell-type expression, immunolocalization, and deoxyribonucleic acid-binding activity of basic transcription element binding transcription factor, an Sp-related family member, in porcine endometrium of pregnancy. Biol. Reprod. 57: 707-714.
3. Lania, L., Majello, B. and De Luca, P. 1997. Transcriptional regulation by the Sp family proteins. Int. J. Biochem. Cell Biol. 29: 1313-1323.
4. Simmen, R.C., Chung, T.E., Imataka, H., Michel, F.J., Badinga, L. and Simmen, F.A. 1999. *Trans*-activation functions of the Sp-related nuclear factor, basic transcription element-binding protein, and progesterone receptor in endometrial epithelial cells. Endocrinology 140: 2517-2525.
5. Chen, A. and Davis, B.H. 2000. The DNA binding protein BTEB mediates acetaldehyde-induced, jun N-terminal kinase-dependent αI(I) collagen gene expression in rat hepatic stellate cells. Mol. Cell. Biol. 20: 2818-2826.

CHROMOSOMAL LOCATION

Genetic locus: Klf9 (mouse) mapping to 19 B.

PRODUCT

BTEB1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see BTEB1 shRNA Plasmid (m): sc-37717-SH and BTEB1 shRNA (m) Lentiviral Particles: sc-37717-V as alternate gene silencing products.

For independent verification of BTEB1 (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-37717A, sc-37717B and sc-37717C.

PROTOCOLS

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

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

BTEB1 siRNA (m) is recommended for the inhibition of BTEB1 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 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

BTEB1 (A-5): sc-376422 is recommended as a control antibody for monitoring of BTEB1 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 BTEB1 gene expression knockdown using RT-PCR Primer: BTEB1 (m)-PR: sc-37717-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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