SANTA CRUZ BIOTECHNOLOGY, INC.

GMEB-1 siRNA (m): sc-105402

BACKGROUND

GMEB-1 (Glucocorticoid modulatory element-binding protein 1), also known as PIF p96 (Parvovirus initiation factor p96), is a 573 amino acid protein that contains one SAND domain and is a member of the KDWK family of combinatorial transcription modulators. Localized to both the cytoplasm and the nucleus, GMEB-1 forms a heterodimer with GMEB-2 (Glucocorticoid modulatory element-binding protein 2) and, once associated with GMEB-2, plays a key role in parvovirus DNA replication. In addition, GMEB-1 functions alone as a *trans*-acting factor that, by binding to glucocorticoid modulatory elements (GMEs) in TAT (tyrosine aminotransferase) promoters, increases intracellular sensitivity to glucocorticoid concentrations. GMEB-1 also interacts with initiator procaspases and, via this interaction, can inhibit caspase-induced apoptosis. Due to alternative splicing events, GMEB-1 is expressed as two isoforms.

REFERENCES

1. Oshima, H., et al. 1995. The factor binding to the glucocorticoid modulatory element of the tyrosine aminotransferase gene is a novel and ubiquitous heteromeric complex. J. Biol. Chem. 270: 21893-21901.
2. Christensen, J., et al. 1999. Two new members of the emerging KDWK family of combinatorial transcription modulators bind as a heterodimer to flexibly spaced PuCGPy half-sites. Mol. Cell. Biol. 19: 7741-7750.
3. Theriault, J.R., et al. 1999. Cloning and characterization of hGMEB1, a novel glucocorticoid modulatory element binding protein. FEBS Lett. 452: 170-176.
4. Kaul, S., et al. 2000. Properties of the glucocorticoid modulatory element binding proteins GMEB-1 and -2: potential new modifiers of glucocorticoid receptor transactivation and members of the family of KDWK proteins. Mol. Endocrinol. 14: 1010-1027.
5. Burnett, E., et al. 2001. A consensus DNA recognition motif for two KDWK transcription factors identifies flexible-length, CpG-methylation sensitive cognate binding sites in the majority of human promoters. J. Mol. Biol. 314: 1029-1039.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604409. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Gmeb1 (mouse) mapping to 4 D2.3.

PRODUCT

GMEB-1 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 GMEB-1 shRNA Plasmid (m): sc-105402-SH and GMEB-1 shRNA (m) Lentiviral Particles: sc-105402-V as alternate gene silencing products.

For independent verification of GMEB-1 (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-105402A, sc-105402B and sc-105402C.

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

GMEB-1 siRNA (m) is recommended for the inhibition of GMEB-1 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

GMEB-1 (H-2): sc-376775 is recommended as a control antibody for monitoring of GMEB-1 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 GMEB-1 gene expression knockdown using RT-PCR Primer: GMEB-1 (m)-PR: sc-105402-PR (20 µl, 420 bp). 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.

PROTOCOLS

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