SANTA CRUZ BIOTECHNOLOGY, INC.

GATAD2B siRNA (m): sc-145343

BACKGROUND

GATAD2B (GATA zinc finger domain containing 2B), also known as P66β, is a 593 amino acid protein that contains one GATA-type zinc finger and localizes to discrete foci within the nucleus. Expressed ubiquitously, GATAD2B is thought to function as a transcriptional repressor that interacts with the methyl-CpG-binding protein MBD3, a component of the MeCP1 complex. MeCP1 is a multi-subunit complex that represses transcription via histone deacetylation and nucleosomal remodeling, thereby condensing chromatin structure and preventing transcription. GATAD2B interacts with and recruits MBD3 to specific areas within the nucleus, thereby participating in MeCP1 complex-mediated transcriptional repression. GATAD2B is expressed in various cancer cell lines, suggesting a possible role in carcinogenesis.

REFERENCES

1. Brackertz, M., Boeke, J., Zhang, R. and Renkawitz, R. 2002. Two highly related p66 proteins comprise a new family of potent transcriptional repressors interacting with MBD2 and MBD3. J. Biol. Chem. 277: 40958-40966.
2. Feng, Q., Cao, R., Xia, L., Erdjument-Bromage, H., Tempst, P. and Zhang, Y. 2002. Identification and functional characterization of the p66/p68 components of the MeCP1 complex. Mol. Cell. Biol. 22: 536-546.
3. Gong, Z., Brackertz, M. and Renkawitz, R. 2006. SUMO modification enhances p66-mediated transcriptional repression of the Mi-2/NuRD complex. Mol. Cell. Biol. 26: 4519-4528.
4. Brackertz, M., Gong, Z., Leers, J. and Renkawitz, R. 2006. p66α and p66β of the Mi-2/NuRD complex mediate MBD2 and histone interaction. Nucleic Acids Res. 34: 397-406.
5. Marino, S. and Nusse, R. 2007. Mutants in the mouse NuRD/Mi2 component P66α are embryonic lethal. PLoS ONE 2: e519.

CHROMOSOMAL LOCATION

Genetic locus: Gatad2b (mouse) mapping to 3 F1.

PRODUCT

GATAD2B 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 GATAD2B shRNA Plasmid (m): sc-145343-SH and GATAD2B shRNA (m) Lentiviral Particles: sc-145343-V as alternate gene silencing products.

For independent verification of GATAD2B (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-145343A, sc-145343B and sc-145343C.

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

GATAD2B siRNA (m) is recommended for the inhibition of GATAD2B 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

GATAD2B (ZZ-9): sc-101052 is recommended as a control antibody for monitoring of GATAD2B 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 GATAD2B gene expression knockdown using RT-PCR Primer: GATAD2B (m)-PR: sc-145343-PR (20 µl, 599 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.