SANTA CRUZ BIOTECHNOLOGY, INC.

NAB1 siRNA (m): sc-38090

BACKGROUND

Transcriptional control is in part regulated by interactions between DNA-bound transcription factors, such as Egr1/NGFI-A, and coregulatory proteins, such as NAB (for NGFI-A-binding proteins). The evolutionarily conserved NAB proteins, NAB1 and NAB2, are corepressors of Egr1/NGFI-A. Both NAB1 and NAB2 contain an amino-terminal NAB-conserved domain 1 (NCB1), which is required for binding NGFI-A, and a carboxy-terminal NCD2, which is responsible for the repressor function of NAB proteins. NAB1 requires NGFI-A to gain access to DNA, indicating that NAB1 is an active repressor that works by a direct mechanism. NAB1, which is constitutively expressed, is localized exclusively in the nucleus and may play a role in controlling processes such as cell division, differentiation and apoptosis.

REFERENCES

1. Russo, M.W., et al. 1993. Transcriptional activity of the zinc finger protein NGFI-A is influenced by its interaction with a cellular factor. Mol. Cell. Biol. 13: 6858-6865.
2. Russo, M.W., et al. 1995. Identification of NAB1, a repressor of NGFI-A- and Krox20-mediated transcription. Proc. Natl. Acad. Sci. USA 92: 6873-6877.
3. Svaren, J., et al. 1996. NAB2, a corepressor of NGFI-A (Egr-1) and Krox20, is induced by proliferative and differentiative stimuli. Mol. Cell. Biol. 16: 3545-3553.
4. Swirnoff, A.H., et al. 1998. NAB1, a corepressor of NGFI-A (Egr-1), contains an active transcriptional repression domain. Mol. Cell. Biol. 18: 512-524.
5. Sevetson, B.R., et al. 2000. A novel activation function for NAB proteins in Egr-dependent transcription of the luteinizing hormone β gene. J. Biol. Chem. 275: 9749-9757.
6. Braddock, M., et al. 2000. Therapeutic applications of the transcriptional corepressor proteins NAB1 and NAB2 in regenerative medicine. IDrugs 3: 783-787.
7. Mussgnug, J.H., et al. 2005. NAB1 is an RNA binding protein involved in the light-regulated differential expression of the light-harvesting antenna of *Chlamydomonas reinhardtii*. Plant Cell 17: 3409-3421.
8. Buitrago, M., et al. 2005. The transcriptional repressor NAB1 is a specific regulator of pathological cardiac hypertrophy. Nat. Med. 11: 837-844.

CHROMOSOMAL LOCATION

Genetic locus: Nab1 (mouse) mapping to 1 C1.1.

PRODUCT

NAB1 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 NAB1 shRNA Plasmid (m): sc-38090-SH and NAB1 shRNA (m) Lentiviral Particles: sc-38090-V as alternate gene silencing products.

For independent verification of NAB1 (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-38090A, sc-38090B and sc-38090C.

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

NAB1 siRNA (m) is recommended for the inhibition of NAB1 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

NAB1 (A-8): sc-137084 is recommended as a control antibody for monitoring of NAB1 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 NAB1 gene expression knockdown using RT-PCR Primer: NAB1 (m)-PR: sc-38090-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.

PROTOCOLS

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