



NAB2 siRNA (h): sc-36014

BACKGROUND

Transcriptional control is in part regulated by interactions between DNA-bound transcription factors, such as Egr-1/NGFI-A, and coregulatory proteins, such as NAB (for NGFI-A-binding proteins). The evolutionarily conserved NAB proteins, NAB1 and NAB2 are co-repressors of EGF-1/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 domain, which is responsible for the repressor function of NAB proteins. NAB2 is principally localized in the nucleus and may play a role in the downregulation of NGFI-A activity as well as in controlling fundamental processes such as cell division, differentiation and apoptosis. NAB2 localizes to chromosome 12q13.3, a region that is rearranged in several solid tumors, lipomas and liposarcomas.

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. Swirloff, 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.

CHROMOSOMAL LOCATION

Genetic locus: NAB2 (human) mapping to 12q13.3.

PRODUCT

NAB2 siRNA (h) 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 NAB2 shRNA Plasmid (h): sc-36014-SH and NAB2 shRNA (h) Lentiviral Particles: sc-36014-V as alternate gene silencing products.

For independent verification of NAB2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-36014A, sc-36014B and sc-36014C.

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

NAB2 siRNA (h) is recommended for the inhibition of NAB2 expression in human 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

NAB2 (1C4): sc-23867 is recommended as a control antibody for monitoring of NAB2 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 NAB2 gene expression knockdown using RT-PCR Primer: NAB2 (h)-PR: sc-36014-PR (20 μ l, 591 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Hasan, R.N. and Schafer, A.I. 2008. Hemin upregulates Egr-1 expression in vascular smooth muscle cells via reactive oxygen species ERK-1/2-Erk-1 and NF κ B. *Circ. Res.* 102: 42-50.
2. Kumbrink, J. and Kirsch, K.H. 2012. Regulation of p130Cas/BCAR1 expression in tamoxifen-sensitive and tamoxifen-resistant breast cancer cells by EGR1 and NAB2. *Neoplasia* 14: 108-120.
3. Kim, J., et al. 2019. NGFI-A binding protein 2 promotes EGF-dependent HNSCC cell invasion. *Cancers* 11: 315.

RESEARCH USE

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