

# Gfi-1B siRNA (m): sc-62375

## BACKGROUND

Growth factor independent 1 (Gfi-1) is a transcriptional repressor that specifically binds to the DNA consensus sequence TAAATCAC(A/T)GCA. The carboxy-terminus of Gfi-1 contains six C<sub>2</sub>H<sub>2</sub>-type zinc finger motifs, and zinc fingers 3, 4 and 5 are required for the binding of Gfi-1 to its DNA binding site. Gfi-1 also contains a 20 amino acid SNAG domain which mediates transcriptional repression. It represses Bax at the mRNA and protein levels, resulting in the inhibition of cell death. Gfi-1 is expressed outside the lymphoid system in granulocytes and activated macrophages. Gfi-1B, a related protein, is a transcriptional repressor primarily expressed in bone marrow and spleen. Gfi-1B is a direct repressor of the p21 promoter and the SOCS-1 and -3 promoters. The genes encoding human Gfi-1 and Gfi-1B map to chromosome 1p22 and 9q34.13, respectively.

## REFERENCES

1. Gilks, C.B., et al. 1993. Progression of interleukin-2 (IL-2)-dependent rat T cell lymphoma lines to IL-2-independent growth following activation of a gene (Gfi-1) encoding a novel zinc finger protein. *Mol. Cell. Biol.* 13: 1759-1768.
2. Bell, D.W., et al. 1995. Chromosomal localization of a gene, Gfi-1, encoding a novel zinc finger protein reveals a new syntenic region between man and rodents. *Cytogenet. Cell Genet.* 70: 263-267.
3. Grimes, H.L., et al. 1996. The Gfi-1 proto-oncoprotein represses Bax expression and inhibits T-cell death. *Proc. Natl. Acad. Sci. USA* 93: 14569-14573.
4. Zweidler-McKay, P.A., et al. 1996. Gfi-1 encodes a nuclear zinc finger protein that binds DNA and functions as a transcriptional repressor. *Mol. Cell. Biol.* 16: 4024-4034.
5. Grimes, H.L., et al. 1996. The Gfi-1 proto-oncoprotein contains a novel transcriptional repressor domain, SNAG, and inhibits G<sub>1</sub> arrest induced by interleukin-2 withdrawal. *Mol. Cell. Biol.* 16: 6263-6272.
6. Rodel, B., et al. 1998. The human homologue (Gfi-1B) of the chicken Gfi gene maps to chromosome 9q34.13—a locus frequently altered in hematopoietic diseases. *Genomics* 54: 580-582.
7. Tong, B., et al. 1998. The Gfi-1B proto-oncoprotein represses p21<sup>WAF1</sup> and inhibits myeloid cell differentiation. *Mol. Cell. Biol.* 18: 2462-2473.

## CHROMOSOMAL LOCATION

Genetic locus: Gfi1b (mouse) mapping to 2 A3.

## PRODUCT

Gfi-1B 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Gfi-1B shRNA Plasmid (m): sc-62375-SH and Gfi-1B shRNA (m) Lentiviral Particles: sc-62375-V as alternate gene silencing products.

For independent verification of Gfi-1B (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-62375A, sc-62375B and sc-62375C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

Gfi-1B siRNA (m) is recommended for the inhibition of Gfi-1B 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  $\mu$ M in 66  $\mu$ 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

Gfi-1B (B-7): sc-28356 is recommended as a control antibody for monitoring of Gfi-1B 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 Gfi-1B gene expression knockdown using RT-PCR Primer: Gfi-1B (m)-PR: sc-62375-PR (20  $\mu$ l). 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](http://www.scbt.com) for detailed protocols and support products.