SANTA CRUZ BIOTECHNOLOGY, INC.

# GABP-α siRNA (h): sc-37100

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

The transcription factor GA-binding protein (GABP) is composed of two subunits, the Ets-related GABP-α and a GABP-α-associated subunit, GABP-β. GABP-α binds to a specific DNA sequence and GABP-β exists as β1 and β2 splice variants that differ in their C-termini. In primary neuronal cultures, GABP-β is expressed in both the cytoplasm and the nucleus, whereas GABP-α is expressed mainly in the nucleus. GABP is constitutively expressed as either a GABP-α/β heterodimer or a GABP-α/β heterotetramer, both of which can modify GABP-dependent transcription *in vitro* and *in vivo*. The GABP-α/β tetrameric complex performs many different functions, such as stimulating transcription of the adenovirus E4 gene, differentially activating BRCA1 expression in human breast cell lines, potentiating Tat-mediated activation of long terminal repeat promoter transcription and viral replication in certain cell types, acting as a coordinator of mitochrondrial and nuclear transcription for cytochrome oxidase in neurons and assisting in the regulation of rpL32 gene transcription.

## REFERENCES


1. Suzuki, F., et al. 1998. Functional interactions of transcription factor human GA-binding protein subunits. J. Biol. Chem. 273: 29302-29308.
2. Sawada, J., et al. 1999. Synergistic transcriptional activation by hGABP and select members of the activation transcription factor/cAMP response element-binding protein family. J. Biol. Chem. 274: 35475-35482.
3. Verhoef, K., et al. 1999. Evolution of the human immunodeficiency virus type 1 long terminal repeat promoter by conversion of an NFκB enhancer element into a GABP binding site. J. Virol. 73: 1331-1340.


## CHROMOSOMAL LOCATION

Genetic locus: GABPA (human) mapping to 21q21.3.

## PRODUCT

GABP-α 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GABP-α shRNA Plasmid (h): sc-37100-SH and GABP-α shRNA (h) Lentiviral Particles: sc-37100-V as alternate gene silencing products.

For independent verification of GABP-α (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-37100A, sc-37100B and sc-37100C.

## 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

GABP-α siRNA (h) is recommended for the inhibition of GABP-α 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 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.

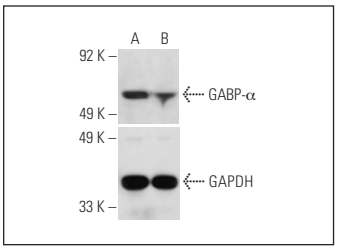
## GENE EXPRESSION MONITORING

GABP-α (G-1): sc-28312 is recommended as a control antibody for monitoring of GABP-α 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).

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GABP-α gene expression knockdown using RT-PCR Primer: GABP-α (h)-PR: sc-37100-PR (20 µl, 434 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## DATA




GABP-α siRNA (h): sc-37100. Western blot analysis of GABP-α expression in non-transfected control (**A**) and GABP-α siRNA transfected (**B**) HeLa cells. Blot probed with GABP-α (H-180): sc-22810. GAPDH (FL-335): sc-25778 used as specificity and loading control.

## SELECT PRODUCT CITATIONS


1. Odrowaz, Z. and Sharrocks, A.D. 2012. The Ets transcription factors ELK1 and GABPA regulate different gene networks to control MCF10A breast epithelial cell migration. PLoS ONE 7: e49892.
2. Shi, Z., et al. 2022. Argininosuccinate lyase drives activation of mutant TERT promoter in glioblastomas. Mol. Cell 82: 3919-3931.e7.


## RESEARCH USE

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