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BAF57 siRNA (h): sc-45940

BACKGROUND

The SWI/SNF complex is involved in the activation of transcription via the remodeling of nucleosome structure in an ATP-dependent manner. Brm (also designated SNF1 or SNF2 α) and Brg-1 (also designated SNF2 or SNF2 β) are the ATPase subunits of the mammalian SWI/SNF complex. Brm, Brg-1, Ini1 (integrase interactor 1, also designated SNF5), BAF155 (also designated SRG3) and BAF170 are thought to comprise the functional core of the SWI/SNF complex. In higher eukaryotes, BAF57 is also a critical component of the SWI/SNF complex. BAF57 contains a high-mobility-group (HMG) domain adjacent to a kinesin-like region and is a DNA-binding subunit of the SWI/SNF complex. The human BAF57 gene maps within the q12-25 region of chromosome 17, a gene-rich area implicated in breast and ovarian cancers.

REFERENCES

1. Muchardt, C. and Yaniv, M. 1993. A human homologue of *Saccharomyces cerevisiae* SNF2/SWI2 and *Drosophila* Brm genes potentiates transcriptional activation by the glucocorticoid receptor. *EMBO J.* 12: 4279-4290.
2. Khavari, P.A., et al. 1993. Brg1 contains a conserved domain of the SWI2/SNF2 family necessary for normal mitotic growth and transcription. *Nature* 366: 170-174.
3. Imbalzano, A.N., et al. 1996. Nucleosome disruption by human SWI/SNF is maintained in the absence of continued ATP hydrolysis. *J. Biol. Chem.* 271: 20726-20733.
4. Wang, W., et al. 1998. Architectural DNA binding by a high-mobility-group/kinesin-like subunit in mammalian SWI/SNF-related complexes. *Proc. Natl. Acad. Sci. USA* 95: 492-498.

CHROMOSOMAL LOCATION

Genetic locus: SMARCE1 (human) mapping to 17q21.2.

PRODUCT

BAF57 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 BAF57 shRNA Plasmid (h): sc-45940-SH and BAF57 shRNA (h) Lentiviral Particles: sc-45940-V as alternate gene silencing products.

For independent verification of BAF57 (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-45940A, sc-45940B and sc-45940C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20 $^{\circ}$ C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20 $^{\circ}$ 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

BAF57 siRNA (h) is recommended for the inhibition of BAF57 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

BAF57 (6G11): sc-293309 is recommended as a control antibody for monitoring of BAF57 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 BAF57 gene expression knockdown using RT-PCR Primer: BAF57 (h)-PR: sc-45940-PR (20 μ l, 592 bp). Annealing temperature for the primers should be 55-60 $^{\circ}$ C and the extension temperature should be 68-72 $^{\circ}$ C.

SELECT PRODUCT CITATIONS

1. Petanidis, S., et al. 2020. Inhibition of kras-derived exosomes downregulates immunosuppressive BACH2/GATA-3 expression via RIP-3 dependent necroptosis and miR-146/miR-210 modulation. *Biomed. Pharmacother.* 122: 109461.

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.