

BAF siRNA (m): sc-44804

BACKGROUND

Barrier-to-autointegration factor (BAF) binds non-specifically to double stranded DNA, possibly to play a role in tissue- or cell type-specific gene expression by interacting with different homeodomain transcription factors. BAF compresses chromatin structure and interacts with the LEM domain of nuclear proteins to play a crucial role in membrane recruitment and chromatin decondensation during nuclear assembly. Additionally, retroviruses like HIV-1 incorporate BAF from host cells into preintegration complexes (PICs) to prevent autointegration of retroviral DNA and thereby promote integration of retroviral DNA into the host chromosome.

REFERENCES

1. Cai, M., et al. 1998. Solution structure of the cellular factor BAF responsible for protecting retroviral DNA from autointegration. *Nat. Struct. Biol.* 5: 903-909.
2. Lee, K.K., et al. 2001. Distinct functional domains in emerin bind Lamin A and DNA-bridging protein BAF. *J. Cell Sci.* 114: 4567-4573.
3. Haraguchi, T., et al. 2001. BAF is required for emerin assembly into the reforming nuclear envelope. *J. Cell Sci.* 114: 4575-4585.
4. Wang, X., et al. 2002. Barrier to autointegration factor interacts with the cone-rod homeobox and represses its transactivation function. *J. Biol. Chem.* 277: 43288-43300.
5. Segura-Totten, M., et al. 2002. Barrier-to-autointegration factor: major roles in chromatin decondensation and nuclear assembly. *J. Cell Biol.* 158: 475-485.

CHROMOSOMAL LOCATION

Genetic locus: Banf1 (mouse) mapping to 19 A.

PRODUCT

BAF 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see BAF shRNA Plasmid (m): sc-44804-SH and BAF shRNA (m) Lentiviral Particles: sc-44804-V as alternate gene silencing products.

For independent verification of BAF (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-44804A, sc-44804B and sc-44804C.

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

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

BAF (A-11): sc-166324 is recommended as a control antibody for monitoring of BAF 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 BAF gene expression knockdown using RT-PCR Primer: BAF (m)-PR: sc-44804-PR (20 μ l, 449 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Loi, M., et al. 2016. Barrier-to-autointegration factor (BAF) involvement in prelamins A-related chromatin organization changes. *Oncotarget* 7: 15662-15677.

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.