SANTA CRUZ BIOTECHNOLOGY, INC.

Brm siRNA (h): sc-29831

BACKGROUND

The Brahma protein (Brm) is an ATPase subunit of the *Drosophila melanogaster* Brm complex, which is highly related to the mammalian SWI/SNF chromatin-remodeling complex. Brm is a transcriptional activator of Hox genes and associates with nearly all transcriptionally active chromatin in a pattern that is non-overlapping with that of Polycomb, a repressor of Hox gene transcription. The Brm complex is an essential coactivator for the trithorax group protein Zeste, a DNA-binding activator of homeotic genes. Reduction of Brm function dramatically reduces the association of RNA polymerase II with *Drosophila* salivary gland chromosomes, suggesting that the chromatin remodeling activity of the Brm complex plays a general role in facilitating transcription by RNA polymerase II. Brm acts as a dominant suppressor of the rough eye phenotype that results from a hypomorphic mutation of *Drosophila* cyclin E by inhibiting S phase entry by acting downstream of cyclin E protein accumulation. The interaction of the Brm complex with chromatin may be modulated by BAP111, which is highly associated with the Brm complex in *Drosophila* embryos via an HMG domain. Brm is highly expressed in unfertilized eggs and early embryos.

CHROMOSOMAL LOCATION

Genetic locus: SMARCA2 (human) mapping to 9p24.3.

PRODUCT

Brm 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 Brm shRNA Plasmid (h): sc-29831-SH and Brm shRNA (h) Lentiviral Particles: sc-29831-V as alternate gene silencing products.

For independent verification of Brm (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-29831A, sc-29831B and sc-29831C.

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

Brm siRNA (h) is recommended for the inhibition of Brm expression in human cells.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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.

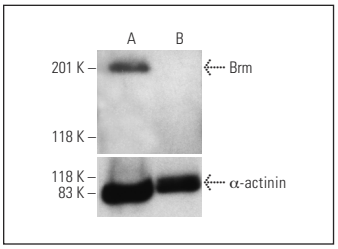
GENE EXPRESSION MONITORING

Brm (E-6): sc-166579 is recommended as a control antibody for monitoring of Brm 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 Brm gene expression knockdown using RT-PCR Primer: Brm (h)-PR: sc-29831-PR (20 µl, 470 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

DATA



Brm siRNA (h): sc-29831. Western blot analysis of Brm expression in non-transfected control (**A**) and Brm siRNA transfected (**B**) HeLa cells. Blot probed with Brm (N-19): sc-6450. α-actinin (H-2): sc-17829 used as specificity and loading control.

SELECT PRODUCT CITATIONS

1. Chen, J. and Archer, T.K. 2005. Regulating SWI/SNF subunit levels via protein-protein interactions and proteasomal degradation: BAF155 and BAF170 limit expression of BAF57. Mol. Cell. Biol. 25: 9016-9027.
2. Fish, J.E., et al. 2010. Hypoxic repression of endothelial nitric-oxide synthase transcription is coupled with eviction of promoter histones. J. Biol. Chem. 285: 810-826.
3. Ui, A., et al. 2014. Possible involvement of LKB1-AMPK signaling in non-homologous end joining. Oncogene 33: 1640-1648.

RESEARCH USE

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