SANTA CRUZ BIOTECHNOLOGY, INC.

Brg-1 siRNA (h): sc-29827

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 SNF2α) and Brg-1 (also designated SNF2β) 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. Addition of Ini1, BAF155 and BAF170 to Brg-1 appears to increase remodeling activity. Other complex subunits are thought to play regulatory roles. hSNF2L and hSNF2H both appear to be homologs of *Drosophila* ISWI, a Brm related ATPase that is present in chromatin remodeling complexes other than SWI/SNF, including the NURF (nucleosome remodeling factor).

CHROMOSOMAL LOCATION

Genetic locus: SMARCA4 (human) mapping to 19p13.2.

PRODUCT

Brg-1 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 Brg-1 shRNA Plasmid (h): sc-29827-SH and Brg-1 shRNA (h) Lentiviral Particles: sc-29827-V as alternate gene silencing products.

For independent verification of Brg-1 (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-29827A, sc-29827B and sc-29827C.

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

Brg-1 siRNA (h) is recommended for the inhibition of Brg-1 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.

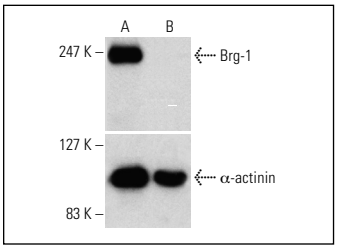
GENE EXPRESSION MONITORING

Brg-1 (G-7): sc-17796 is recommended as a control antibody for monitoring of Brg-1 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 Brg-1 gene expression knockdown using RT-PCR Primer: Brg-1 (h)-PR: sc-29827-PR (20 µl, 413 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

DATA



Brg-1 siRNA (h): sc-29827. Western blot analysis of Brg-1 expression in non-transfected control (**A**) and Brg-1 siRNA transfected (**B**) HeLa cells. Blot probed with Brg-1 (G-7): sc-17796. α-actinin (H-2): sc-17829 used as specificity and loading control.

SELECT PRODUCT CITATIONS

1. Park, J.H., et al. 2006. Mammalian SWI/SNF complexes facilitate DNA double-strand break repair by promoting γ-H2AX induction. EMBO J. 25: 3986-3997.
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. Wang, Y., et al. 2011. Brg-1 is indispensable for IFN-γ-induced TRIM22 expression, which is dependent on the recruitment of IRF-1. Biochem. Biophys. Res. Commun. 410: 549-554.
4. Broderick, R., et al. 2015. TOPBP1 recruits TOP2A to ultra-fine anaphase bridges to aid in their resolution. Nat. Commun. 6: 6572.
5. Ogony, J., et al. 2016. Interferon-induced transmembrane protein 1 (IFITM1) overexpression enhances the aggressive phenotype of SUM149 inflammatory breast cancer cells in a signal transducer and activator of transcription 2 (Stat2)-dependent manner. Breast Cancer Res. 18: 25.
6. Zhang, H., et al. 2020. EZH2 targeting reduces medulloblastoma growth through epigenetic reactivation of the BAI1/p53 tumor suppressor pathway. Oncogene 39: 1041-1048.

RESEARCH USE

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