SANTA CRUZ BIOTECHNOLOGY, INC.

ARID1B siRNA (h): sc-43571

BACKGROUND

BAF250b (BRG1-associated factor 250b), also known as ARID1B (AT-rich interactive domain-containing protein 1B) or hOsa2 (Osa homolog 2), is a 2,236 amino acid protein that contains 1 ARID domain. BAF250b has a BC box motif, associates with elongin C in a BC box-dependent manner, and, together with cullin 2 and Roc1, assembles into an E3 ubiquitin ligase that participates in ubiquitination of histone H2B. Smad2 and Smad3 interact with BRG1, BAF250b, BAF170 and BAF155, which are core components of the SWI/SNF chromatin-remodeling complex. Localizing to nucleus, BAF250b is widely expressed with high levels in heart, skeletal muscle and kidney. The BAF250b gene is conserved in chimpanzee, canine, mouse, rat, chicken, zebrafish, mosquito and *C. elegans,* and maps to human chromosome 6q25.3. BAF250b exists as three alternatively spiced isoforms.

REFERENCES

1. Hurlstone, A.F., et al. 2002. Cloning and characterization of hELD/OSA1, a novel BRG1 interacting protein. Biochem. J. 364: 255-264.
2. Wang, X., et al. 2004. Two related ARID family proteins are alternative subunits of human SWI/SNF complexes. Biochem. J. 383: 319-325.
3. Wilsker, D., et al. 2004. The DNA-binding properties of the ARID-containing subunits of yeast and mammalian SWI/SNF complexes. Nucleic Acids Res. 32: 1345-1353.
4. Xi, Q., et al. 2008. Genome-wide impact of the BRG1 SWI/SNF chromatin remodeler on the transforming growth factor β transcriptional program. J. Biol. Chem. 283: 1146-1155.
5. Yan, Z., et al. 2008. BAF250B-associated SWI/SNF chromatin-remodeling complex is required to maintain undifferentiated mouse embryonic stem cells. Stem Cells 26: 1155-1165.
6. Weissman, B., et al. 2009. Hijacking the chromatin remodeling machinery: impact of SWI/SNF perturbations in cancer. Cancer Res. 69: 8223-8230.
7. Li, X.S., et al. 2010. Mammalian SWI/SNF-A subunit BAF250/ARID1 is an E3 ubiquitin ligase that targets Histone H2B. Mol. Cell. Biol. 30: 1673-1688.
8. Birrer, M.J. 2010. The origin of ovarian cancer—is it getting clearer? N. Engl. J. Med. 363: 1574-1575.

CHROMOSOMAL LOCATION

Genetic locus: ARID1B (human) mapping to 6q25.3.

PRODUCT

ARID1B 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 ARID1B shRNA Plasmid (h): sc-43571-SH and ARID1B shRNA (h) Lentiviral Particles: sc-43571-V as alternate gene silencing products.

For independent verification of ARID1B (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-43571A, sc-43571B and sc-43571C.

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

ARID1B siRNA (h) is recommended for the inhibition of ARID1B 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

ARID1B (KMN1): sc-32762 is recommended as a control antibody for monitoring of ARID1B 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 ARID1B gene expression knockdown using RT-PCR Primer: ARID1B (h)-PR: sc-43571-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Sato, E., et al. 2018. ARID1B as a potential therapeutic target for ARID1A-mutant ovarian clear cell carcinoma. Int. J. Mol. Sci. 19: 1710.

RESEARCH USE

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