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ARID1B shRNA (h) Lentiviral Particles: sc-43571-V

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, dog, mouse, rat, chicken, zebrafish, mosquito and *C. elegans*, and maps to human chromosome 6q25.3. BAF250b exists as three alternatively spiced isoforms.

REFERENCES

- Hurlstone, A.F., et al. 2002. Cloning and characterization of hELD/Osa1, a novel BRG1 interacting protein. *Biochem. J.* 364: 255-264.
- Wang, X., et al. 2004. Two related ARID family proteins are alternative subunits of human SWI/SNF complexes. *Biochem. J.* 383: 319-325.
- 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.
- Xi, Q., et al. 2008. Genome-wide impact of the BRG1 SWI/SNF chromatin remodeler on the transforming growth factor beta transcriptional program. *J. Biol. Chem.* 283: 1146-1155.
- 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.

CHROMOSOMAL LOCATION

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

PRODUCT

ARID1B shRNA (h) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200 μ l frozen stock containing 1.0×10^6 infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see ARID1B siRNA (h): sc-43571 and ARID1B shRNA Plasmid (h): sc-43571-SH as alternate gene silencing products.

STORAGE

Store lentiviral particles at -80° C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at 4° C for up to one week. Avoid repeated freeze thaw cycles.

PROTOCOLS

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

APPLICATIONS

ARID1B shRNA (h) Lentiviral Particles is recommended for the inhibition of ARID1B expression in human cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 μ l frozen viral stock containing 1.0×10^6 infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

GENE EXPRESSION MONITORING

ARID1B (Y-19): sc-249999 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 (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 μ l). Annealing temperature for the primers should be $55-60^{\circ}$ C and the extension temperature should be $68-72^{\circ}$ C.

BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.