

# ARID3B siRNA (m): sc-141230

## BACKGROUND

ARID3B (AT rich interactive domain 3B), also known as DRIL2 or BDP (bright and dead ringer protein) in humans and bright-like (for B cell regulator of IgH transcription-like) in mice, is one of the mammalian homologs of the *Drosophila* Dri (dead ringer) protein. ARID3B also shares homology with RBP1 and RBP2 (retinoblastoma binding proteins 1 and 2). ARID3B represents a member of a unique family of DNA-binding proteins that have roles in cell lineage gene regulation, cell cycle control, embryonic patterning and transcriptional regulation. ARID3B localizes to the nucleus and contains an AT-rich interactive domain (ARID) which has DNA-binding capabilities. Functioning as a transcription factor, ARID3B associates in a heterodimer with the related protein ARID3A and is believed to play an important role in neural crest survival during embryogenesis. In addition, ARID3B may participate in malignant transformation and neuroblastoma growth, suggesting a possible use of ARID3B as a tumor marker for neuroblastoma.

## REFERENCES

1. Kortschak, R.D., et al. 1998. The human dead ringer/bright homolog, DRIL1: cDNA cloning, gene structure, and mapping to D19S886, a marker on 19p13.3 that is strictly linked to the Peutz-Jeghers syndrome. *Genomics* 51: 288-292.
2. Numata, S., et al. 1999. BDP, a new member of a family of DNA-binding proteins, associates with the retinoblastoma gene product. *Cancer Res.* 59: 3741-3747.
3. Kortschak, R.D., et al. 2000. ARID proteins come in from the desert. *Trends Biochem. Sci.* 25: 294-299.
4. Kobayashi, K., et al. 2006. ARID3B induces malignant transformation of mouse embryonic fibroblasts and is strongly associated with malignant neuroblastoma. *Cancer Res.* 66: 8331-8336.
5. Takebe, A., et al. 2006. Microarray analysis of PDGFR  $\alpha^+$  populations in ES cell differentiation culture identifies genes involved in differentiation of mesoderm and mesenchyme including ARID3b that is essential for development of embryonic mesenchymal cells. *Dev. Biol.* 293: 25-37.
6. Kim, D., et al. 2006. A regulated nucleocytoplasmic shuttle contributes to Bright's function as a transcriptional activator of immunoglobulin genes. *Mol. Cell. Biol.* 26: 2187-2201.

## CHROMOSOMAL LOCATION

Genetic locus: Arid3b (mouse) mapping to 9 B.

## PRODUCT

ARID3B 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ARID3B shRNA Plasmid (m): sc-141230-SH and ARID3B shRNA (m) Lentiviral Particles: sc-141230-V as alternate gene silencing products.

For independent verification of ARID3B (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-141230A, sc-141230B and sc-141230C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

ARID3B siRNA (m) is recommended for the inhibition of ARID3B 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  $\mu$ M in 66  $\mu$ 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ARID3B gene expression knockdown using RT-PCR Primer: ARID3B (m)-PR: sc-141230-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.