SANTA CRUZ BIOTECHNOLOGY, INC.

ARID3A siRNA (h): sc-35222

BACKGROUND

ARID3A, also known as DRIL1 in humans and Bright (for B cell regulator of IgH transcription) in mice, are the mammalian homologs of the *Drosophila* Dri (dead ringer) protein. ARID3A is developmentally regulated and is expressed in a restricted set of cells, including differentiating cells of the gut and salivary glands. ARID3A represents a member of a unique family of transcriptional activators that shares sequence similarity to proteins of SWI/SNF complexes; it contains an A/T-rich DNA-binding (ARID) domain and a distinct domain involved in tetramerization. The gene encoding ARID3A is linked to a marker of Peutz-Jeghers syndrome, which is an autosomal-dominant disorder characterized by melanocytic macules of the lips, multiple gastrointestinal hamartomatous polyps and an increased risk for various neoplasms, including gastrointestinal cancer. E2FBP1 (E2F-1 binding protein 1) is identical to ARID3A in the carboxy terminal region. E2FBP1 appears to lack DNA binding and transactivation domains, and it functions to regulate the transcription of proteins involved in cell proliferation by binding to the transcription factor E2F-1.

REFERENCES

1. DeGregori, J., et al. 1995. E2F-1 accumulation bypasses a G_1 arrest resulting from the inhibition of G_1 cyclin-dependent kinase activity. Genes Dev. 9: 2873-2887.
2. Herrscher, R.F., et al. 1995. The immunoglobulin heavy-chain matrix-associating regions are bound by Bright: a B cell-specific *trans*-activator that describes a new DNA-binding protein family. Genes Dev. 9: 3067-3082.
3. Zong, R.T. and Scheuermann, R.H. 1995. Mutually exclusive interaction of a novel matrix attachment region binding protein and the NF-μNR enhancer repressor. Implications for regulation of immunoglobulin heavy chain expression. J. Biol. Chem. 270: 24010-24018.
4. Gregory, S.L., et al. 1996. Characterization of the dead ringer gene identifies a novel, highly conserved family of sequence-specific DNA-binding proteins. Mol. Cell. Biol. 16: 792-799.
5. Amos, C.I., et al. 1997. Fine mapping of a genetic locus for Peutz-Jeghers syndrome on chromosome 9p. Cancer Res. 57: 3653-3656.
6. Suzuki, M., et al. 1998. A novel E2F binding protein with Myc-type HLH motif stimulates E2F-dependent transcription by forming a heterodimer. Oncogene 17: 853-865.

CHROMOSOMAL LOCATION

Genetic locus: ARID3A (human) mapping to 19p13.3.

PRODUCT

ARID3A 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 ARID3A shRNA Plasmid (h): sc-35222-SH and ARID3A shRNA (h) Lentiviral Particles: sc-35222-V as alternate gene silencing products.

For independent verification of ARID3A (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-35222A, sc-35222B and sc-35222C.

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

ARID3A siRNA (h) is recommended for the inhibition of ARID3A 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

ARID3A (A-4): sc-398367 is recommended as a control antibody for monitoring of ARID3A 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 ARID3A gene expression knockdown using RT-PCR Primer: ARID3A (h)-PR: sc-35222-PR (20 µl, 419 bp). 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 for detailed protocols and support products.