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SANTA CRUZ BIOTECHNOLOGY, INC.

SMARCD2 siRNA (m): sc-153618

BACKGROUND

SMARCD2 (SWI/SNF related, matrix associated, Actin dependent regulator of chromatin, subfamily D, member 2), also known as Rsc6p, PRO2451, BAF60B (BRG1-associated factor 60B) or CRACD2, is a member of the SMARCD family and contains one SWIB domain. Expressed in liver, muscle, pancreas, lung and placenta, SMARCD2 localizes to the nucleus and is a component of the ATP-dependent chromatin remodeling complex SWI/SNF and is believed to play a role in nucleosome remodeling. The SWI/SNF complex is involved in the activation of transcription via the remodeling of nucleosome structure in an ATP-dependent manner. SMARCD2 is a homolog of the *Saccharomyces cerevisiae* protein Swp73, a component of the yeast Swi/Snf complex that is required for transcriptional activation. Due to alternative splicing events, two isoforms exist for SMARCD2.

REFERENCES

1. Wang, W., et al. 1996. Diversity and specialization of mammalian SWI/SNF complexes. Genes Dev. 10: 2117-2130.
2. Nomoto, K., et al. 1997. Gene structure of rat BAF60b, a component of mammalian SW1/SNF complexes, and its physical linkage to the growth hormone gene and transcription factor SUG/proteasome p45 gene. Gene 202: 157-165.
3. Ring, H.Z., et al. 1998. Five SWI/SNF-related, matrix-associated, Actin-dependent regulator of chromatin (SMARC) genes are dispersed in the human genome. Genomics 51: 140-143.
4. Ono, M., et al. 1999. Gene structure of rat testicular cell adhesion molecule 1 (TCAM-1), and its physical linkage to genes coding for the growth hormone and BAF60b, a component of SWI/SNF complexes. Gene 226: 95-102.
5. Surabhi, R.M., et al. 1999. Evidence for evolutionary conservation of a physical linkage between the human BAF60b, a subunit of SWI/SNF complex, and thyroid hormone receptor interacting protein-1 genes on chromosome 17. Genome 42: 545-549.
6. Decristofaro, M.F., et al. 2001. Characterization of SWI/SNF protein expression in human breast cancer cell lines and other malignancies. J. Cell. Physiol. 186: 136-145.

CHROMOSOMAL LOCATION

Genetic locus: Smarcd2 (mouse) mapping to 11 E1.

PRODUCT

SMARCD2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SMARCD2 shRNA Plasmid (m): sc-153618-SH and SMARCD2 shRNA (m) Lentiviral Particles: sc-153618-V as alternate gene silencing products.

For independent verification of SMARCD2 (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-153618A, sc-153618B and sc-153618C.

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

SMARCD2 siRNA (m) is recommended for the inhibition of SMARCD2 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 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

SMARCD2 (F-34): sc-101162 is recommended as a control antibody for monitoring of SMARCD2 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 SMARCD2 gene expression knockdown using RT-PCR Primer: SMARCD2 (m)-PR: sc-153618-PR (20 µl). 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.