

SMARCD3 siRNA (h): sc-89355

BACKGROUND

SMARCD3 (SWI/SNF related, matrix associated, Actin dependent regulator of chromatin, subfamily d, member 3), also known as Rsc6p, CRACD3 or BAF60C (BRG1-associated factor 60C), is a member of the SMARCD family and contains one SWIB domain. Two isoforms, isoform 1 and isoform 2 exist due to alternative splicing events. Both isoforms are expressed in placenta, salivary gland, kidney, brain, trachea, uterus, prostate, testis, thyroid, spleen and heart, while isoform 1 is also expressed in adipose tissue and skeletal muscle. Localizing to the nucleus, SMARCD3 is a component of the ATP-dependent chromatin remodeling complex SNF/SWI and is believed to play a role in nucleosome remodeling. SMARCD3 also plays an important role in the regulation of muscle development. In mice, the silencing of the gene encoding SMARCD3 leads to defects in heart morphogenesis. In addition, both isoforms of SMARCD3 directly interact with and function as co-activators for several transcription factors.

REFERENCES

1. Wang, W., et al. 1996. Diversity and specialization of mammalian SWI/SNF complexes. *Genes Dev.* 10: 2117-2130.
2. 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.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 601737. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: SMARCD3 (human) mapping to 7q36.1.

PRODUCT

SMARCD3 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SMARCD3 shRNA Plasmid (h): sc-89355-SH and SMARCD3 shRNA (h) Lentiviral Particles: sc-89355-V as alternate gene silencing products.

For independent verification of SMARCD3 (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-89355A, sc-89355B and sc-89355C.

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

APPLICATIONS

SMARCD3 siRNA (h) is recommended for the inhibition of SMARCD3 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 μ M in 66 μ 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.

GENE EXPRESSION MONITORING

SMARCD3 (RN-18): sc-101163 is recommended as a control antibody for monitoring of SMARCD3 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 SMARCD3 gene expression knockdown using RT-PCR Primer: SMARCD3 (h)-PR: sc-89355-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Ertl, I.E., et al. 2022. The SMARCD family of SWI/SNF accessory proteins is involved in the transcriptional regulation of androgen receptor-driven genes and plays a role in various essential processes of prostate cancer. *Cells* 12: 124.

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.