

SMARCD3 (RN-18): sc-101163

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 coactivators 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/>
4. Lickert, H., et al. 2004. BAF60C is essential for function of BAF chromatin remodelling complexes in heart development. *Nature* 432: 107-112.
5. Takita, J., et al. 2004. Gene expression profiling and identification of novel prognostic marker genes in neuroblastoma. *Genes Chromosomes Cancer* 40: 120-132.
6. Debril, M.B., et al. 2004. Transcription factors and nuclear receptors interact with the SWI/ SNF complex through the BAF60C subunit. *J. Biol. Chem.* 279: 16677-16686.
7. Flajollet, S., et al. 2007. The core component of the mammalian SWI/SNF complex SMARCD3/BAF60C is a coactivator for the nuclear retinoic acid receptor. *Mol. Cell. Endocrinol.* 270: 23-32.

CHROMOSOMAL LOCATION

Genetic locus: SMARCD3 (human) mapping to 7q36.1; Smarcd3 (mouse) mapping to 5 A3.

SOURCE

SMARCD3 (RN-18) is a mouse monoclonal antibody raised against recombinant SMARCD3 of human origin.

PRODUCT

Each vial contains 50 µg IgG_{2a} kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SMARCD3 (RN-18) is recommended for detection of SMARCD3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SMARCD3 siRNA (h): sc-89355, SMARCD3 siRNA (m): sc-108054, SMARCD3 shRNA Plasmid (h): sc-89355-SH, SMARCD3 shRNA Plasmid (m): sc-108054-SH, SMARCD3 shRNA (h) Lentiviral Particles: sc-89355-V and SMARCD3 shRNA (m) Lentiviral Particles: sc-108054-V.

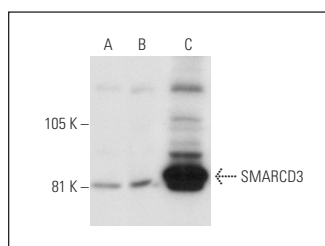
Molecular Weight of SMARCD3: 60 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or SMARCD3 (h): 293T Lysate: sc-111784.

RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



SMARCD3 (RN-18): sc-101163. Western blot analysis of SMARCD3 expression in non-transfected 293T: sc-117752 (A), human SMARCD3 transfected 293T: sc-111784 (B) and K-562 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Bosch, P.J., et al. 2019. A critical role for the nuclear protein Akirin2 in the formation of mammalian muscle *in vivo*. *Genesis* 57: e23286.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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