

BAF60a (23): sc-135843

BACKGROUND

BAF60a (BRG1-associated factor 60A), also known as SMARCD1 (SWI/SNF related, matrix associated, Actin dependent regulator of chromatin, subfamily d, member 1), Rsc6p or CRACD1, is a 476 amino acid protein that localizes to the nucleus and contains one SWIB domain. Expressed ubiquitously with notable expression in liver, brain, muscle, lung, kidney, pancreas and placenta, BAF60a functions as a component of the BAF complex and, in conjunction with a variety of other proteins, plays an essential role in chromatin remodeling. In addition, BAF60a influences vitamin D-mediated transcriptional activity and is thought to provide a link between the vitamin D receptor (VDR) and SWI/SNF chromatin remodeling complexes. Multiple isoforms of BAF60a exist due to alternative splicing events.

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 (SMAR) genes are dispersed in the human genome. *Genomics* 51: 140-143.
3. Phelan, M.L., et al. 1999. Reconstitution of a core chromatin remodeling complex from SWI/SNF subunits. *Mol. Cell* 3: 247-253.

CHROMOSOMAL LOCATION

Genetic locus: SMARCD1 (human) mapping to 12q13.12; Smarcd1 (mouse) mapping to 15 F1.

SOURCE

BAF60a (23) is a mouse monoclonal antibody raised against amino acids 1-91 of BAF60a of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

BAF60a (23) is recommended for detection of BAF60a of mouse, rat, human and canine 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for BAF60a siRNA (h): sc-72597, BAF60a siRNA (m): sc-72598, BAF60a shRNA Plasmid (h): sc-72597-SH, BAF60a shRNA Plasmid (m): sc-72598-SH, BAF60a shRNA (h) Lentiviral Particles: sc-72597-V and BAF60a shRNA (m) Lentiviral Particles: sc-72598-V.

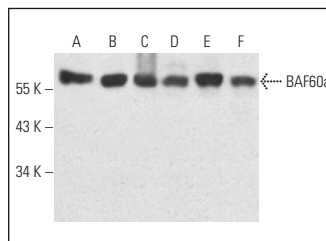
Molecular Weight of BAF60a: 60 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Neuro-2A whole cell lysate: sc-364185 or SK-N-MC nuclear extract: sc-2154.

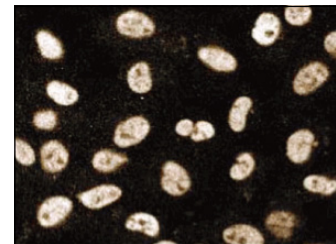
STORAGE

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

DATA



BAF60a (23): sc-135843. Western blot analysis of BAF60a expression in Jurkat (A) and Neuro-2A (B) whole cell lysates and A549 (C), SK-N-MC (D), NIH/3T3 (E) and HeLa (F) nuclear extracts.



BAF60a (23): sc-135843. Immunofluorescence staining of human endothelial cells showing nuclear staining.

SELECT PRODUCT CITATIONS

1. Song, J., et al. 2012. DNA and chromatin modification networks distinguish stem cell pluripotent ground states. *Mol. Cell. Proteomics* 11: 1036-1047.
2. Xiong, J., 2015. Stemness factor Sall4 is required for DNA damage response in embryonic stem cells. *J. Cell Biol.* 208: 513520.
3. Hong, C.F., et al. 2016. MicroRNA-7 compromises p53 protein-dependent apoptosis by controlling the expression of the chromatin remodeling factor SMARCD1. *J. Biol. Chem.* 291: 1877-1889.
4. Kelso, T.W.R., et al. 2017. Chromatin accessibility underlies synthetic lethality of SWI/SNF subunits in ARID1A-mutant cancers. *Elife* 6: e30506.
5. Zhang, H., et al. 2018. Targeting Cdk9 reactivates epigenetically silenced genes in cancer. *Cell* 175: 1244-1258.e26.
6. Pan, J., et al. 2019. The ATPase module of mammalian SWI/SNF family complexes mediates subcomplex identity and catalytic activity-independent genomic targeting. *Nat. Genet.* 51: 618-626.
7. Hong, A.L., et al. 2019. Renal medullary carcinomas depend upon SMARCB1 loss and are sensitive to proteasome inhibition. *Elife* 8: e44161.
8. Lindén, M., et al. 2019. FET family fusion oncoproteins target the SWI/SNF chromatin remodeling complex. *EMBO Rep.* 20: e45766.
9. Inoue, D., et al. 2019. Spliceosomal disruption of the non-canonical BAF complex in cancer. *Nature* 574: 432-436.
10. Daneshvar, K., et al. 2020. lncRNA DIGIT and BRD3 protein form phase-separated condensates to regulate endoderm differentiation. *Nat. Cell Biol.* 22: 1211-1222.
11. Tomihara, H., et al. 2021. Loss of ARID1A promotes epithelial-mesenchymal transition and sensitizes pancreatic tumors to proteotoxic stress. *Cancer Res.* 81: 332-343.

RESEARCH USE

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