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ARID1A Antibody

Catalog # ASC11922

Product Information

Application	WB, IF, E
Primary Accession	O14497
Other Accession	NP_006006, 21264565
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	242045
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	ARID1A antibody can be used for detection of ARID1A by Western blot at 1 - 2 g/ml. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	8289
Other Names	AT-rich interactive domain-containing protein 1A, ARID domain-containing protein 1A, B120, BRG1-associated factor 250, BAF250, BRG1-associated factor 250a, BAF250A, Osa homolog 1, hOSA1, SWI-like protein, SWI/SNF complex protein p270, SWI/SNF-related, matrix-associated, actin-dependent regulator of chromatin subfamily F member 1, hELD, ARID1A, BAF250, BAF250A, C1orf4, OSA1, SMARCF1
Target/Specificity	ARID1A; ARID1A antibody is human, mouse and rat reactive. Multiple isoforms of ARID1A protein are known to exist.
Reconstitution & Storage	ARID1A antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	ARID1A Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ARID1A
Synonyms	BAF250, BAF250A, C1orf4, OSA1, SMARCF1
Function	Involved in transcriptional activation and repression of select genes by chromatin remodeling (alteration of DNA-nucleosome topology). Component of SWI/SNF chromatin remodeling complexes that carry out key enzymatic activities, changing chromatin structure by altering DNA-histone contacts within a nucleosome in an ATP-dependent manner. Binds DNA

	non-specifically. Belongs to the neural progenitors- specific chromatin remodeling complex (npBAF complex) and the neuron- specific chromatin remodeling complex (nBAF complex). During neural development a switch from a stem/progenitor to a postmitotic chromatin remodeling mechanism occurs as neurons exit the cell cycle and become committed to their adult state. The transition from proliferating neural stem/progenitor cells to postmitotic neurons requires a switch in subunit composition of the npBAF and nBAF complexes. As neural progenitors exit mitosis and differentiate into neurons, npBAF complexes which contain ACTL6A/BAF53A and PHF10/BAF45A, are exchanged for homologous alternative ACTL6B/BAF53B and DPF1/BAF45B or DPF3/BAF45C subunits in neuron-specific complexes (nBAF). The npBAF complex is essential for the self-renewal/proliferative capacity of the multipotent neural stem cells. The nBAF complex along with CREST plays a role regulating the activity of genes essential for dendrite growth (By similarity).
Cellular Location	Nucleus {ECO:0000255|PROSITE-ProRule:PRU00355, ECO:0000269|PubMed:11318604, ECO:0000269|PubMed:26614907}
Tissue Location	Highly expressed in spleen, thymus, prostate, testis, ovary, small intestine, colon, and PBL, and at a much lower level in heart, brain, placenta, lung, liver, skeletal muscle, kidney, and pancreas.

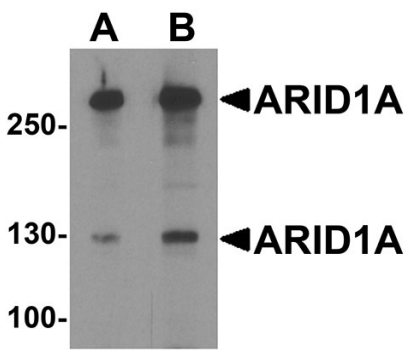
Background

The ARID1A protein is a member of the SWI/SNF family, whose members are thought to regulate transcription of certain genes by altering the chromatin structure around those genes. ARID1A is part of the large ATP-dependent chromatin remodeling complex SNF/SWI, which is required for transcriptional activation of genes normally repressed by chromatin (1). It possesses a DNA-binding domain that can specifically bind an AT-rich DNA sequence known to be recognized by a SNF/SWI complex at the beta-globin locus. The C-terminus of the protein can stimulate glucocorticoid receptor-dependent transcriptional activation. It is thought that ARID1A confers specificity to the SNF/SWI complex and may recruit the complex to its targets through either protein-DNA or protein-protein interactions (2).

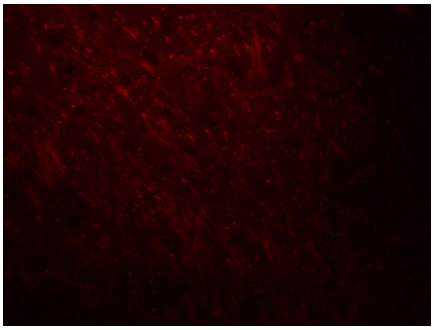
References

Martens JA and Winston F. Recent advances in understanding chromatin remodeling by Swi/Snf complexes. Curr. Opin. Genet. Dev. 2003; 13:136-42.
Nie Z, Xue Y, Yang D, et al. A specificity and targeting subunit of a human SWI/SNF family-related chromatin-remodeling complex. Mol. Cell. Biol. 2000; 20:8879-88.

Images



Western blot analysis of ARID1A in SK-N-SH cell lysate with ARID1A antibody at (A) 1 and (B) 2 µg/ml.



Immunofluorescence of ARID1A in mouse brain tissue with ARID1A antibody at 20 µg/mL.