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Goat Anti-BAF53A and BAF53B Antibody

Peptide-affinity purified goat antibody
Catalog # AF1136a

Specification

Goat Anti-BAF53A and BAF53B Antibody - Product Information

Application	**WB**
Primary Accession	O96019
Other Accession	NP_057272, 51412, 86
Reactivity	**Human**
Predicted	**Mouse, Rat, Pig, Dog, Cow**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**47461**

Goat Anti-BAF53A and BAF53B Antibody - Additional Information

Gene ID 86

Other Names
Actin-like protein 6A, 53 kDa BRG1-associated factor A, Actin-related protein Baf53a, ArpNbeta, BRG1-associated factor 53A, BAF53A, INO80 complex subunit K, ACTL6A, BAF53, BAF53A, INO80K

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-BAF53A and BAF53B Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-BAF53A and BAF53B Antibody - Protein Information

Name ACTL6A

Synonyms BAF53, BAF53A, INO80K

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. Required for maximal ATPase activity of SMARCA4/BRG1/BAF190A and for association of the SMARCA4/BRG1/BAF190A containing remodeling complex BAF with chromatin/nuclear matrix. Belongs to the neural progenitors-specific chromatin remodeling complex (npBAF complex) and is required for the proliferation of neural progenitors. 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). Component of the NuA4 histone acetyltransferase (HAT) complex which is involved in transcriptional activation of select genes principally by acetylation of nucleosomal histones H4 and H2A. This modification may both alter nucleosome - DNA interactions and promote interaction of the modified histones with other proteins which positively regulate transcription. This complex may be required for the activation of transcriptional programs associated with oncogene and proto-oncogene mediated growth induction, tumor suppressor mediated growth arrest and replicative senescence, apoptosis, and DNA repair. NuA4 may also play a direct role in DNA repair when recruited to sites of DNA damage. Putative core component of the chromatin remodeling INO80 complex which is involved in transcriptional regulation, DNA replication and probably DNA repair.

Cellular Location
Nucleus.

Goat Anti-BAF53A and BAF53B Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Goat Anti-BAF53A and BAF53B Antibody - Images

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AF1136a staining (1 µg/ml) of Hela lysate (RIPA buffer, 35 µg total protein per lane). Primary incubated for 1 hour. Detected by western blot using chemiluminescence.

Goat Anti-BAF53A and BAF53B Antibody - Background

This gene encodes a family member of actin-related proteins (ARPs), which share significant amino acid sequence identity to conventional actins. Both actins and ARPs have an actin fold, which is an ATP-binding cleft, as a common feature. The ARPs are involved in diverse cellular processes, including vesicular transport, spindle orientation, nuclear migration and chromatin remodeling. This gene encodes a 53 kDa subunit protein of the BAF (BRG1/brm-associated factor) complex in mammals, which is functionally related to SWI/SNF complex in S. cerevisiae and Drosophila; the latter is thought to facilitate transcriptional activation of specific genes by antagonizing chromatin-mediated transcriptional repression. Together with beta-actin, it is required for maximal ATPase activity of BRG1, and for the association of the BAF complex with chromatin/matrix. Three transcript variants that encode two different protein isoforms have been described.

Goat Anti-BAF53A and BAF53B Antibody - References

Systematic analysis of the protein interaction network for the human transcription machinery reveals the identity of the 7SK capping enzyme. Jeronimo C, et al. Mol Cell, 2007 Jul 20. PMID 17643375.
Global, in vivo, and site-specific phosphorylation dynamics in signaling networks. Olsen JV, et al. Cell, 2006 Nov 3. PMID 17081983.
ING tumor suppressor proteins are critical regulators of chromatin acetylation required for genome expression and perpetuation. Doyon Y, et al. Mol Cell, 2006 Jan 6. PMID 16387653.
Towards a proteome-scale map of the human protein-protein interaction network. Rual JF, et al. Nature, 2005 Oct 20. PMID 16189514.
A human protein-protein interaction network: a resource for annotating the proteome. Stelzl U, et al. Cell, 2005 Sep 23. PMID 16169070.