

Store at  
-20C  
#76682**ACTL6A/BAF53A Antibody**

**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M R Mk	Endogenous	45	Rabbit	#O96019	86

**Product Usage Information****Application**

Western Blotting  
Immunoprecipitation

**Dilution**

1:1000  
1:50

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

**Specificity/Sensitivity**

ACTL6A/BAF53A Antibody recognizes endogenous levels of total ACTL6A/BAF53A protein. This antibody does not cross-react with ACTL6B/BAF53B protein. This antibody does cross-react with an unidentified protein of 95kDa.

**Source / Purification**

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Val44 of human ACTL6A/BAF53A protein. Antibodies are purified by protein A and peptide affinity chromatography.

**Background**

The modulation of chromatin structure is an essential component in the regulation of transcriptional activation and repression. Modifications can be made by at least two evolutionarily conserved strategies, through the disruption of histone-DNA contacts by ATP-dependent chromatin remodelers, or by histone tail modifications including methylation and acetylation. One of the four classes of ATP-dependent histone remodelers is the SWI/SNF complex, the central catalytic subunit of which is Brg1 or the highly related protein hBRM (1). This SWI/SNF complex contains varying subunits but its association with either Brg1 or hBRM remains constant (1). SWI/SNF complexes have been shown to regulate gene activation, cell growth, the cell cycle, and differentiation (1). Brg1/hBRM have been shown to regulate transcription through enhancing transcriptional activation of glucocorticoid receptors (2). Although usually associated with transcriptional activation, Brg1/hBRM have also been found in complexes associated with transcriptional repression, including HDACs, Rb, and Tif1β (3-5). Brg1/hBRM plays a vital role in the regulation of gene transcription during early mammalian embryogenesis. In addition, Brg1/hBRM also plays a role as a tumor suppressor and Brg1 is mutated in several tumor cell lines (6-8).

ACTL6/BAF53 proteins are highly homologous, actin-related proteins found in the SWI/SNF complex (9). In addition to the canonical SWI/SNF complex, ACTL6A/BAF53A is also member of the embryonic SWI/SNF complex, known as esBAF, which plays a role in pluripotency and development (10-12). ACTL6B/BAF53B is a member of the neural-specific SWI/SNF complex that facilitates binding to target genes and is involved in memory and synaptic plasticity (13-15). ACTL6/BAF53 has been shown to interact with c-Myc, where it functions as a cofactor and is important in the transformation process (16). Further studies have shown ACTL6/BAF53 is associated with EMT and transformation in various cancers (17,18).

## Background References

1. Trotter, K.W. and Archer, T.K. (2008) *Nucl Recept Signal* 6, e004.
2. Trotter, K.W. and Archer, T.K. (2007) *Mol Cell Endocrinol* 265-266, 162-7.
3. Sif, S. et al. (2001) *Genes Dev* 15, 603-18.
4. Zhang, H.S. et al. (2000) *Cell* 101, 79-89.
5. Underhill, C. et al. (2000) *J Biol Chem* 275, 40463-70.
6. Magnani, L. and Cabot, R.A. (2009) *Reproduction* 137, 23-33.
7. Medina, P.P. et al. (2008) *Epigenetics* 3, 64-8.
8. Medina, P.P. et al. (2008) *Hum Mutat* 29, 617-22.
9. Zhao, K. et al. (1998) *Cell* 95, 625-36.
10. Ho, L. et al. (2009) *Proc Natl Acad Sci U S A* 106, 5181-6.
11. Krasteva, V. et al. (2012) *Blood* 120, 4720-32.
12. Bao, X. et al. (2013) *Cell Stem Cell* 12, 193-203.
13. Olave, I. et al. (2002) *Genes Dev* 16, 2509-17.
14. Vogel-Ciernia, A. et al. (2013) *Nat Neurosci* 16, 552-61.
15. Yoo, M. et al. (2017) *J Neurosci* 37, 3686-3697.
16. Park, J. et al. (2002) *Mol Cell Biol* 22, 1307-16.
17. Saladi, S.V. et al. (2017) *Cancer Cell* 31, 35-49.
18. Sun, W. et al. (2017) *Oncol Rep* 37, 2405-2417.

---

## Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

## Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

## Applications Key

**W:** Western Blotting **IP:** Immunoprecipitation

## Cross-Reactivity Key

**H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey

## Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit [cellsignal.com/trademarks](http://cellsignal.com/trademarks) for more information.

## Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.

Orders: 877-616-CELL (2355) • [orders@cellsignal.com](mailto:orders@cellsignal.com) • Support: 877-678-TECH (8324) • [info@cellsignal.com](mailto:info@cellsignal.com) • Web: [cellsignal.com](http://cellsignal.com)  
For Research Use Only. Not for Use in Diagnostic Procedures.