Revision 1

Store at -20C

#12854

BAF Complex Antibody Sampler Kit

1 Kit (6 x 20 microliters)

Cell Signaling TECHNOLOGY®

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.

Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
ARID1A/BAF250A (D2A8U) Rabbit mAb	12354	20 µl	270 kDa	Rabbit IgG
Brg1 (A52) Antibody	3508	20 µl	220 kDa	Rabbit
BRM (D9E8B) XP® Rabbit mAb	11966	20 µl	200 kDa	Rabbit IgG
SMARCB1/BAF47 (D8M1X) Rabbit mAb	91735	20 µl	44 kDa	Rabbit IgG
SMARCC1/BAF155 (D7F8S) Rabbit mAb	11956	20 µl	155 kDa	Rabbit IgG
SMARCC2/BAF170 (D8O9V) Rabbit mAb	12760	20 µl	162, 170 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The BAF Complex Antibody Sampler Kit provides an economical means of detecting total protein from the SWI/SNF family members including ARID1A/BAF250A, Brg1, BRM, SMARCC1/BAF155, SMARCC2/BAF170 and SMARCB1/BAF47. The kit contains enough primary antibody to perform two western blots per primary antibody.

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Background

ATP-dependent chromatin remodeling complexes play an essential role in the regulation of various nuclear processes, such as gene expression, DNA replication, and repair (1,2). The SWI/SNF chromatin remodeling complex consists of more than 10 subunits with a single molecule of the ATPase catalytic subunit BRM or BRG1, but not both. The activities of these two subunits drive the disruption of histone-DNA contacts that lead to changes in accessibility of crucial regulatory elements within chromatin (2-5). The BRM/BRG1 containing SWI/SNF complexes are recruited to target promoters by transcription factors, such as nuclear receptors, p53, RB, and BRCA1 to regulate gene activation, cell growth, the cell cycle, and differentiation processes (1,6-9). BRM and BRG1 are also considered to be tumor suppressors and their expression levels are severely reduced in several cancer cell lines (10-13). SMARCC1/BAF155, SMARCC2/BAF170, and SMARCB1/BAF47 are members of the core subunits of the SWI/SNF complex, which is necessary for efficient nucleosome remodeling by BRG1 *in vitro* (14). ARID1A/BAF250A is one of the accessory subunits of the SWI/SNF complex (15). SMARCC1, SMARCB1, and ARID1A are an essential part of the mouse embryonic stem cell specific SWI/SNF complex (esBAF). SMARCC1 is necessary for early embryogenesis, especially proper brain and visceral endoderm development (16-18). SMARCB1 is necessary for early embryogenesis and hepatocyte differentiation (19,20). ARID1A is critical for ES cell pluripotency and differentiation into mesoderm-derived cardiomyocytes and adipocytes (15). While SMARCC2 has been shown to be part of the SWI/SNF complex in non-pluripotent cells, it is absent in pluripotent embryonic stem (ES) cells. Expression of SMARCC2 has been shown to be up-regulated in neurons/neuronal progenitors upon differentiation of mouse ES cells with retinoic acid, and exogenous expression of SMARCC2 leads to loss of stem cell pluripotency and self renewal (21).

Background References

1. Ho, L. and Crabtree, G.R. (2010) *Nature* 463, 474-84.
2. Becker, P.B. and Hörz, W. (2002) *Annu Rev Biochem* 71, 247-73.
3. Eberharter, A. and Becker, P.B. (2004) *J Cell Sci* 117, 3707-11.
4. Bowman, G.D. (2010) *Curr Opin Struct Biol* 20, 73-81.
5. Gangaraju, V.K. and Bartholomew, B. (2007) *Mutat Res* 618, 3-17.
6. Lessard, J.A. and Crabtree, G.R. (2010) *Annu Rev Cell Dev Biol* 26, 503-32.
7. Morettini, S. et al. (2008) *Front Biosci* 13, 5522-32.
8. Wolf, I.M. et al. (2008) *J Cell Biochem* 104, 1580-6.
9. Simone, C. (2006) *J Cell Physiol* 207, 309-14.
10. Yamamichi, N. et al. (2005) *Oncogene* 24, 5471-81.
11. Reisman, D.N. et al. (2002) *Oncogene* 21, 1196-207.
12. Shen, H. et al. (2008) *Cancer Res* 68, 10154-62.
13. Weissman, B. and Knudsen, K.E. (2009) *Cancer Res* 69, 8223-30.

14. Phelan, M.L. et al. (1999) *Mol Cell* 3, 247-53.
15. Gao, X. et al. (2008) *Proc Natl Acad Sci U S A* 105, 6656-61.
16. Han, D. et al. (2008) *Dev Biol* 315, 136-46.
17. Kim, J.K. et al. (2001) *Mol Cell Biol* 21, 7787-95.
18. Schaniel, C. et al. (2009) *Stem Cells* 27, 2979-91.
19. Klochendler-Yeivin, A. et al. (2000) *EMBO Rep* 1, 500-6.
20. Gresh, L. et al. (2005) *EMBO J* 24, 3313-24.
21. Ho, L. et al. (2009) *Proc Natl Acad Sci U S A* 106, 5181-6.

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 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.