

#12760 Store at -20°C

**SMARCC2/BAF170 (D8O9V)
Rabbit mAb****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.

| Applications: | Reactivity: | Sensitivity: | MW (kDa): | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|--------------------------------|-------------|--------------|-----------|-----------------|-------------|-----------------|
| WB, IP, ChIP, ChIP-seq, C&R | H M R Mk | Endogenous | 162, 170 | Rabbit IgG | #Q8TAQ2 | 6601 |

**Product Usage
Information**

For optimal ChIP and ChIP-seq results, use 10 µl of antibody and 10 µg of chromatin (approximately 4 x 10⁶ cells) per IP. This antibody has been validated using SimpleChIP® Enzymatic Chromatin IP Kits.

The CUT&RUN dilution was determined using CUT&RUN Assay Kit #86652.

| Application | Dilution |
|---------------------|----------|
| Western Blotting | 1:1000 |
| Immunoprecipitation | 1:50 |
| Chromatin IP | 1:50 |
| Chromatin IP-seq | 1:50 |
| CUT&RUN | 1:50 |

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.

Specificity / Sensitivity

SMARCC2/BAF170 (D8O9V) Rabbit mAb recognizes endogenous levels of total SMARCC2/BAF170 protein.

**Species predicted to
react based on 100%
sequence homology:**

Dog, Pig, Horse, Guinea Pig

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ile818 of human SMARCC2/BAF170 protein.

Background

ATP-dependent chromatin remodeling complexes play an essential role in the regulation of nuclear processes such as transcription and DNA replication and repair (1,2). The SWI/SNF chromatin remodeling complex consists of more than 10 subunits and contains a single molecule of either BRM or BRG1 as the ATPase catalytic subunit. The activity of the ATPase subunit disrupts histone-DNA contacts and changes the accessibility of crucial regulatory elements to the chromatin. The additional core and accessory subunits play a scaffolding role to maintain stability and provide surfaces for interaction with various transcription factors and chromatin (2-5). The interactions between SWI/SNF subunits and transcription factors, such as nuclear receptors, p53, Rb, BRCA1, and MyoD, facilitate recruitment of the complex to target genes for regulation of gene activation, cell growth, cell cycle, and differentiation processes (1,6-9). SMARCC2/BAF170 is one of the core subunits of the SWI/SNF complex, which is necessary for efficient nucleosome remodeling by Brg1 *in vitro* (10). While SMARCC2/BAF170 has been shown to be part of the SWI/SNF complex in non-pluripotent cells, it is absent in pluripotent embryonic stem (ES) cells. Research studies have shown that expression of SMARCC2/BAF170 is up-regulated in neurons/neuronal progenitors upon differentiation of mouse ES cells with retinoic acid, and exogenous expression of SMARCC2/BAF170 leads to loss of stem cell pluripotency and self renewal (11).

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. Eberhart, 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. Phelan, M.L. et al. (1999) *Mol Cell* 3, 247-53.11. Ho, L. et al. (2009) *Proc Natl Acad Sci U S A* 106, 5181-6.

| | |
|-------------------------------|--|
| 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 BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight. |
| Applications Key | WB: Western Blotting IP: Immunoprecipitation ChIP: Chromatin IP ChIP-seq: Chromatin IP-seq C&R: CUT&RUN |
| Cross-Reactivity Key | H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse GP: Guinea Pig Rab: rabbit All: all species expected |
| 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 | <p>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.</p> <p>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.</p> |