Revision 1

Store at -20C

#12483

SMARCA1 (D4Q7V) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H Mk	Endogenous	130	Rabbit IgG	#P28370	6594

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100

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

SMARCA1 (D4Q7V) Rabbit mAb recognizes endogenous levels of total SMARCA1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro73 of human SMARCA1 protein.

Background

SMARCA1 (SNF2L) is one of the two orthologs of the ISWI (imitation switch) ATPases encoded by the mammalian genome (1). The ISWI chromatin remodeling complexes were first identified in *Drosophila* and have been shown to remodel and alter nucleosome spacing *in vitro* (2). SMARCA1 is the catalytic subunit of the nucleosome remodeling factor (NURF) and CECR2-containing remodeling factor (CERF) complexes (3-5). The NURF complex plays an important role in neuronal physiology by promoting neurite outgrowth and regulation of *Engrailed* homeotic genes that are involved in neuronal development in the mid-hindbrain (3). NURF is also thought to be involved in the maturation of T cells from thymocytes by regulating chromatin structure and expression of genes important for T cell development (6). The largest subunit of the NURF complex, BPTF, is required for proper development of mesoderm, endoderm, and ectoderm tissue lineages, suggesting a role for SMARCA1 in the development of the germ layers in mouse embryo (7). Disruption of the CERF complex by deletion of CECR2, an interacting partner of SMARCA1, is associated with the neural tube defect exencephaly, linking the CERF complex with regulation of neurulation (4).

Background References

1. Lazzaro, M.A. and Picketts, D.J. (2001) *J Neurochem* 77, 1145-56.
2. Erdel, F. and Rippe, K. (2011) FEBS J 278, 3608-18.
3. Barak, O. et al. (2003) *EMBO J* 22, 6089-100.
4. Banting, G.S. et al. (2005) *Hum Mol Genet* 14, 513-24.
5. Ho, L. and Crabtree, G.R. (2010) *Nature* 463, 474-84.
6. Landry, J.W. et al. (2011) *Genes Dev* 25, 275-86.
7. Landry, J. et al. (2008) *PLoS Genet* 4, e1000241.

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

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **Mk:** Monkey

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