Revision 1

Store at -20C

#4251

SMYD2 Antibody

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H M R Mk	Endogenous	49	Rabbit	#Q9NRG4	56950

Product Usage Information

Application	Dilution
Western Blotting	1:1000

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

SMYD2 Antibody detects endogenous levels of total SMYD2 protein. The antibody does not cross-react with SMYD3 protein.

Species predicted to react based on 100% sequence homology:

Bovine, Pig

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to human SMYD2 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

SET and MYND domain-containing protein 2 (SMYD2), also known as lysine methyltransferase protein 3C (KMT3C), is a member of the SMYD family of protein methyltransferases (1). All five members of this family (SMYD1, SMYD2, SMYD3, SMYD4, and SMYD5) contain a conserved catalytic SET domain, originally identified in *Drosophila* Su[var]3-9, Enhancer of zeste, and Trithorax proteins. This domain is split by the MYN domain/zinc finger motif believed to facilitate protein-protein interactions (1). SMYD2 localizes to both the cytoplasm and nucleus, and is highly expressed in the adult mouse heart, brain, liver, kidney, thymus, and ovary, as well as in the developing mouse embryo (1). SMYD2 functions to repress transcription by interacting with the Sin3A repressor complex and methylating Lys36 of histone H3 (1). SMYD2 also interacts with HSP90α and methylates Lys4 of histone H3, a mark associated with transcriptional activation (2). In addition to histones as methyl substrates, SMYD2 methylates p53 at Lys370 to repress p53-mediated transcriptional activation and apoptosis (3,4).

Background References

1. Brown, M.A. et al. (2006) *Mol Cancer* 5, 26.
2. Abu-Farha, M. et al. (2008) *Mol Cell Proteomics* 7, 560-72.
3. Huang, J. et al. (2006) *Nature* 444, 629-32.
4. Huang, J. et al. (2007) *Nature* 449, 105-8.

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

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

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