

**SMYD2 (D14H7) Rabbit mAb**

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**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	49	Rabbit IgG	#Q9NRG4	56950

**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, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

**Specificity/Sensitivity**

SMYD2 (D14H7) Rabbit mAb recognizes endogenous levels of total SMYD2 protein.

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

Hamster, Bovine, Dog, Horse

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Val414 of human SMYD2 protein. This antibody is not predicted to cross-react with other SMYD proteins.

**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**

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

**Cross-Reactivity Key**

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

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