

DMAP1 (D4O2G) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	60	Rabbit IgG	#Q9NPF5	55929

Product Usage Information**Application**

Western Blotting

Dilution

1:1000

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

DMAP1 (D5O2G) Rabbit mAb recognizes endogenous levels of total DMAP1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly121 of human DMAP1 protein.

Background

DNA methyltransferase 1 (DNMT1)-associated protein 1 (DMAP1) is a nuclear protein that functions in transcriptional repression and DNA repair. DMAP1 was first identified as an activator of DNMT1 methyltransferase activity (1). Both DMAP1 and DNMT1 are targeted to replication foci during S phase and function to transfer proper methylation patterns to newly synthesized DNA during replication (1). In late S phase, DMAP1-DNMT1 co-operate with a p33ING1-Sin3-HDAC2 complex to maintain pericentric heterochromatin by deacetylating histones, methylating histone H3 at Lys9, and methylating DNA (1,2). The DMAP1 protein is also part of the TIP60-p400 complex, a histone acetyltransferases (HAT) and chromatin-remodeling complex that functions in DNA repair (3,4). Upon DNA damage, the TIP60-p400 complex acetylates histone H4 at Lys16 to induce chromatin relaxation and activation of the ATM kinase. DMAP1 is required for DNA-damage induced TIP60-p400-mediated histone acetylation, and deletion of DMAP1 impairs AMT function (5). DMAP1-DNMT1 may also methylate DNA at sites of DNA damage during homologous recombination, which results in gene silencing (6).

Background References

1. Rountree, M.R. et al. (2000) *Nat Genet* 25, 269-77.
2. Xin, H. et al. (2004) *J Biol Chem* 279, 9539-46.
3. Cai, Y. et al. (2003) *J Biol Chem* 278, 42733-6.
4. Doyon, Y. et al. (2004) *Mol Cell Biol* 24, 1884-96.
5. Penicud, K. and Behrens, A. (2013) *Oncogene*, 525-31.
6. Lee, G.E. et al. (2010) *J Biol Chem* 285, 37630-40.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

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

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