

DMAP1 Antibody

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: W, IP	Reactivity: H M R Mk	Sensitivity: Endogenous	MW (kDa): 60	Source/Isotype: Rabbit	UniProt ID: #Q9NPF5	Entrez-Gene Id: 55929
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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 and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

DMAP1 Antibody recognizes endogenous levels of total DMAP1 protein.

Species predicted to react based on 100% sequence homology

Hamster, Zebrafish, Bovine, Dog

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly121 of human DMAP1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

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 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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