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EHMT1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1018a

Product Information

Application	WB, E
Primary Accession	Q9H9B1
Reactivity	Human
Predicted	Bovine, Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB13017
Calculated MW	141466
Antigen Region	203-233

Additional Information

Gene ID	79813
Other Names	Histone-lysine N-methyltransferase EHMT1, 211-, Euchromatic histone-lysine N-methyltransferase 1, Eu-HMTase1, G9a-like protein 1, GLP, GLP1, Histone H3-K9 methyltransferase 5, H3-K9-HMTase 5, Lysine N-methyltransferase 1D, EHMT1, EUHMTASE1, GLP, KIAA1876, KMT1D
Target/Specificity	This EHMT1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 203-233 amino acids from the N-terminal region of human EHMT1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	EHMT1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	EHMT1 {ECO:0000303|PubMed:17974005, ECO:0000312|HGNC:HGNC:24650}

Function	Histone methyltransferase that specifically mono-, di- and trimethylates 'Lys-9' of histone H3 (H3K9me1, H3K9me2 and H3K9me3, respectively) in euchromatin (PubMed:12004135). H3K9me represents a specific tag for epigenetic transcriptional repression by recruiting HP1 proteins to methylated histones (PubMed:12004135). Also weakly methylates 'Lys-27' of histone H3 (H3K27me) (PubMed:12004135). Also required for DNA methylation, the histone methyltransferase activity is not required for DNA methylation, suggesting that these 2 activities function independently (By similarity). Probably targeted to histone H3 by different DNA-binding proteins like E2F6, MGA, MAX and/or DP1 (PubMed:12004135). During G0 phase, it probably contributes to silencing of MYC- and E2F-responsive genes, suggesting a role in G0/G1 transition in cell cycle (PubMed:12004135). Involved in the differentiation of myoblastic precursors into brown adipose cells: following recruitment to chromatin by PRDM16, mediates formation of H3K9me2 and H3K9me3, inhibiting the expression of white adipose- selective genes (By similarity). Also involved in the differentiation of beige adipocytes from white adipose cells following recruitment by PRDM16 (By similarity). EHMT1 also promotes protein stabilization of PRDM16, by preventing PRDM16 ubiquitination and degradation (By similarity). In addition to the histone methyltransferase activity, also methylates non-histone proteins: mediates dimethylation of 'Lys- 373' of p53/TP53 (PubMed:20118233). Represses the expression of mitochondrial function-related genes, perhaps by occupying their promoter regions, working in concert with probable chromatin reader BAZ2B (By similarity).
Cellular Location	Nucleus {ECO:0000250|UniProtKB:Q5DW34}. Chromosome {ECO:0000250|UniProtKB:Q5DW34}. Note=Associates with euchromatic regions. {ECO:0000250|UniProtKB:Q5DW34}
Tissue Location	Widely expressed..

Background

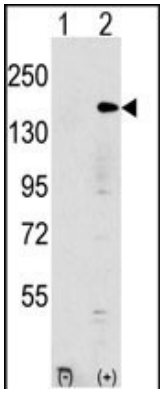
EHMT1, also known as EUHMTASE1, is a histone methyltransferase. This protein methylates 'Lys-9' of histone H3 in vitro. H3 'Lys-9' methylation represents a specific tag for epigenetic transcriptional repression by recruiting HP1 proteins to methylated histones. EHMT1 is Probably targeted to histone H3 by different DNA-binding proteins like E2F6, MGA, MAX and/or DP1. During G0 phase, it probably contributes to silencing of MYC- and E2F-responsive genes, suggesting a role in the G0/G1 transition of the cell cycle.

References

Ogawa H.,Science 296:1132-1136(2002).
Ota T.,Nat. Genet. 36:40-45(2004).
Nagase T.,DNA Res. 8:85-95(2001).

Images

Western blot analysis of EHMT1 (arrow) using rabbit polyclonal EHMT1 Antibody (N-term) (Cat# AP1018a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the EHMT1 gene (Lane 2) (Origene Technologies).



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