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SETDB1

Reactivity: Human Mouse

Tested applications:WB IHC IP

Recommended Dilution:WB 1:500 - 1:1000 IHC 1:50 - 1:100 IP 1:50 - 1:100

Calculated MW:143kDa

Observed MW: Refer to Figures

Immunogen:

Recombinant protein of human SETDB1

Storage Buffer:

Store at -20. Avoid freeze / thaw cycles. Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3.

Concentration:

f

Synonym:

ESET; H3-K9-HMTase4; KG1T; KIAA0067; KMT1E;

Catalog #:A1005

Antibody Type:

Polyclonal Antibody

Species: Rabbit

Gene ID:9869

Isotype: IgG

Swiss Prot:Q15047

Purity: Affinity purification

For research use only.

Background:

The Erg-associated protein with SET domain (ESET), also known as SET-domain, bifurcated 1 (SETDB1) protein, is a member of a family of histone lysine methyltransferases, each of which contains a conserved catalytic SET domain originally identified in Drosophila Su[var]3-9, Enhancer of zeste, and Trithorax proteins (1). ESET also contains tudor and methyl-CpG-binding domains, which may coordinate binding to methylated histones and methylated DNA, respectively (1). ESET methylates histone H3 Lys9, creating a transcriptionally repressive mark that facilitates gene silencing (1-3). However, unlike SUV39H histone H3 Lys9 methyltransferases, which function mainly in heterochromatin regions such as pericentric heterochromatin, ESET functions mainly in euchromatic regions to repress gene promoters (3). ESET interacts with a variety of proteins, including transcription factors (ERG), histone deacetylases (HDAC1/2), DNA methyltransferases (DNMT3A/B) and transcriptional co-repressors (mSin3A/B, MBD1, KAP-1, the ATFa-associated modulator mAM) (1-6). mAM forms a complex with ESET, stimulating its methyltransferase activity, specifically the conversion of di-methyl to tri-methyl histone H3 Lys9 (2). MBD1 recruits ESET to the CAF-1 complex to facilitate methylation of histone H3 Lys9 during replication-coupled chromatin assembly in S phase (5). DNMT3A recruits ESET to silenced promoters in cancer cells (7). ESET may play a role in the pathogenesis of Huntington's disease, since levels of ESET protein and tri-methyl histone H3 Lys9 are both increased in diseased brains (8).

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