

## 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 ATF $\alpha$ -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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