

SETDB1 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1484a**Specification**

SETDB1 Antibody - Product Information

Application	WB, ICC, E
Primary Accession	Q15047
Reactivity	Human, Mouse, Monkey
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	180kDa KDa

Description

This gene encodes a histone methyltransferase. The encoded enzyme catalyzes the reaction of S-adenosyl-L-methionine and histone L-lysine to produce S-adenosyl-L-homocysteine and histone N(6)-methyl-L-lysine. The encoded protein likely functions in transcriptional repression. Alternatively spliced transcript variants have been described.

Immunogen

Purified recombinant fragment of human SETDB1 expressed in E. Coli.

Formulation

Ascitic fluid containing 0.03% sodium azide.

SETDB1 Antibody - Additional Information

Gene ID 9869

Other Names

Histone-lysine N-methyltransferase SETDB1, 2.1.1.43, ERG-associated protein with SET domain, ESET, Histone H3-K9 methyltransferase 4, H3-K9-HMTase 4, Lysine N-methyltransferase 1E, SET domain bifurcated 1, SETDB1, KIAA0067, KMT1E

Dilution

WB~~1/500 - 1/2000

ICC~~N/A

E~~N/A

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

SETDB1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

SETDB1 Antibody - Protein Information

Name SETDB1 ([HGNC:10761](#))

Function

Histone methyltransferase that specifically trimethylates 'Lys-9' of histone H3. H3 'Lys-9' trimethylation represents a specific tag for epigenetic transcriptional repression by recruiting HP1 (CBX1, CBX3 and/or CBX5) proteins to methylated histones. Mainly functions in euchromatin regions, thereby playing a central role in the silencing of euchromatic genes. H3 'Lys-9' trimethylation is coordinated with DNA methylation (PubMed:12869583, PubMed:27237050, PubMed:39096901). Required for HUSH-mediated heterochromatin formation and gene silencing. Forms a complex with MBD1 and ATF7IP that represses transcription and couples DNA methylation and histone 'Lys-9' trimethylation (PubMed:14536086, PubMed:27732843). Its activity is dependent on MBD1 and is heritably maintained through DNA replication by being recruited by CAF-1 (PubMed:14536086). SETDB1 is targeted to histone H3 by TRIM28/TIF1B, a factor recruited by KRAB zinc-finger proteins. Probably forms a corepressor complex required for activated KRAS-mediated promoter hypermethylation and transcriptional silencing of tumor suppressor genes (TSGs) or other tumor-related genes in colorectal cancer (CRC) cells (PubMed:24623306). Required to maintain a transcriptionally repressive state of genes in undifferentiated embryonic stem cells (ESCs) (PubMed:24623306). In ESCs, in collaboration with TRIM28, is also required for H3K9me3 and silencing of endogenous and introduced retroviruses in a DNA-methylation independent-pathway (By similarity). Associates at promoter regions of tumor suppressor genes (TSGs) leading to their gene silencing (PubMed:24623306). The SETDB1-TRIM28-ZNF274 complex may play a role in recruiting ATRX to the 3'-exons of zinc-finger coding genes with atypical chromatin signatures to establish or maintain/protect H3K9me3 at these transcriptionally active regions (PubMed:27029610).

Cellular Location

Nucleus. Cytoplasm. Chromosome. Note=Associated with non- pericentromeric regions of chromatin. Excluded from nucleoli and islands of condensed chromatin.

Tissue Location

Widely expressed. High expression in testis.

SETDB1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

SETDB1 Antibody - Images

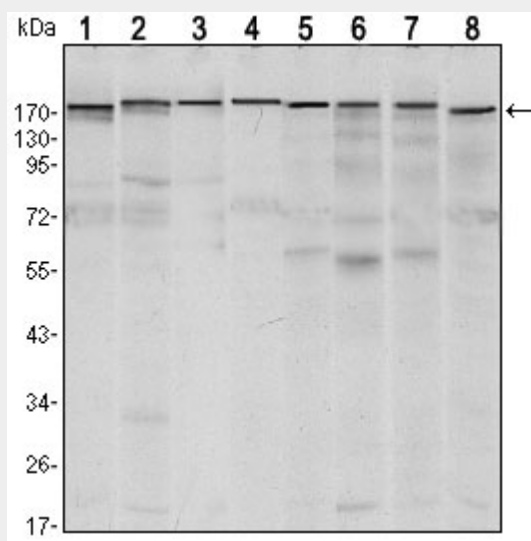


Figure 1: Western blot analysis using SETDB1 mouse mAb against MCF-7 (1), T47D (2), HEK293 (3), JURKAT (4), NIH/3T3 (5), F9 (6), RAW246.7 (7) and Cos7 (8) cell lysate.

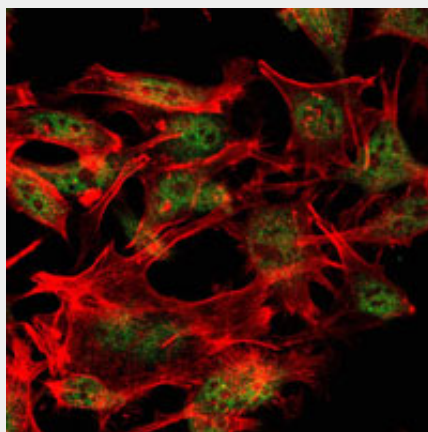


Figure 2: Immunofluorescence analysis of LOVO cells using SETDB1 mouse mAb (green). Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

SETDB1 Antibody - References

1. Proteomics. 2005 Sep;5(14):3589-99.
2. Proc Natl Acad Sci U S A. 2006 Apr 4;103(14):5308-13.
3. Mol Cell Biochem. 2007 Nov;305(1-2):35-44.