

SETDB1 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP1073a**Specification**

SETDB1 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession [Q15047](#)
Other Accession [Q5SZD8](#)

SETDB1 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 9869

Other Names

Histone-lysine N-methyltransferase SETDB1, 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

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP1073a](/product/products/AP1073a) was selected from the N-term region of human SETDB1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

SETDB1 Antibody (N-term) Blocking Peptide - 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](http://www.uniprot.org/citations/12869583)). 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: [27732843](http://www.uniprot.org/citations/27732843))

target="_blank">27732843, PubMed:14536086). 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 (N-term) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

SETDB1 Antibody (N-term) Blocking Peptide - Images

SETDB1 Antibody (N-term) Blocking Peptide - Background

The SET domain is a highly conserved, approximately 150-amino acid motif implicated in the modulation of chromatin structure. It was originally identified as part of a larger conserved region present in the Drosophila Trithorax protein and was subsequently identified in the Drosophila Su(var)3-9 and 'Enhancer of zeste' proteins, from which the acronym SET is derived. Studies have suggested that the SET domain may be a signature of proteins that modulate transcriptionally active or repressed chromatin states through chromatin remodeling activities.

SETDB1 Antibody (N-term) Blocking Peptide - References

Ichimura, T., et al., J. Biol. Chem. 280(14):13928-13935 (2005). Sarraf, S.A., et al., Mol. Cell 15(4):595-605 (2004). Wang, H., et al., Mol. Cell 12(2):475-487 (2003). Schultz, D.C., et al., Genes Dev. 16(8):919-932 (2002). Yang, L., et al., Biochem. J. 369 (PT 3), 651-657 (2003) (1).