

Histone Methyltransferase (SUV39H1) Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10730**Specification**

Histone Methyltransferase (SUV39H1) Antibody - Product Information

Application	WB
Primary Accession	O54864
Other Accession	NP_035644.1
Reactivity	Human, Mouse, Rat, Drosophila
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	47754

Histone Methyltransferase (SUV39H1) Antibody - Additional Information**Gene ID** 20937

Positive Control	3T3 cell lysate
Application & Usage	Western blot analysis (1-4 µg/ml). However, the optimal conditions should be determined individually. 3T3 cell lysate can be used as a positive control.

Other Names

Histone-lysine N-methyltransferase, SUV39H1, Histone H3-K9 methyltransferase 1, H3-K9-HMTase 1, Full=Position-effect variegation 3-9 homolog, Suppressor of variegation 3-9 homolog 1, Su(var)3-9 homolog 1

Target/Specificity

HMT (SUV39H1)

Antibody Form

Liquid

Appearance

Colorless liquid

Formulation

100 µg (0.5 mg/ml) affinity purified rabbit anti-Histone transferase polyclonal antibody in phosphate buffered saline (PBS), pH 7.2, containing 30% glycerol, 0.5% BSA, 0.01% thimerosal

Handling

The antibody solution should be gently mixed before use.

Reconstitution & Storage

-20 °C

Background Descriptions

Precautions

Histone Methyltransferase (SUV39H1) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Histone Methyltransferase (SUV39H1) Antibody - Protein Information

Name Suv39h1

Synonyms Suv39h

Function

Histone methyltransferase that specifically trimethylates 'Lys-9' of histone H3 using monomethylated H3 'Lys-9' as substrate. 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 heterochromatin regions, thereby playing a central role in the establishment of constitutive heterochromatin at pericentric and telomere regions. H3 'Lys-9' trimethylation is also required to direct DNA methylation at pericentric repeats. SUV39H1 is targeted to histone H3 via its interaction with RB1 and is involved in many processes, such as repression of MYOD1-stimulated differentiation, regulation of the control switch for exiting the cell cycle and entering differentiation, repression by the PML-RARA fusion protein, BMP-induced repression, repression of switch recombination to IgA and regulation of telomere length. Component of the eNoSC (energy-dependent nucleolar silencing) complex, a complex that mediates silencing of rDNA in response to intracellular energy status and acts by recruiting histone-modifying enzymes. The eNoSC complex is able to sense the energy status of cell: upon glucose starvation, elevation of NAD(+)/NADP(+) ratio activates SIRT1, leading to histone H3 deacetylation followed by dimethylation of H3 at 'Lys-9' (H3K9me2) by SUV39H1 and the formation of silent chromatin in the rDNA locus. Recruited by the PER complex to the E-box elements of the circadian target genes such as PER2 itself or PER1, contributes to the conversion of local chromatin to a heterochromatin-like repressive state through H3 'Lys-9' trimethylation.

Cellular Location

Nucleus {ECO:0000250|UniProtKB:O43463}. Nucleus lamina. Nucleus, nucleoplasm. Chromosome, centromere. Note=Associates with centromeric constitutive heterochromatin

Tissue Location

Widely expressed.

Histone Methyltransferase (SUV39H1) 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](#)

Histone Methyltransferase (SUV39H1) Antibody - Images**Histone Methyltransferase (SUV39H1) Antibody - Background**

The histone methyltransferase KMT1A / SUV39H1 is the mammalian homologue of the Drosophila PEV modifier Su(var)3-9 protein. SUV39H1 contains the SET and chromo domains. In eukaryotic cells, SUV39H1 and the methyl-lysine binding protein HP1 interact to repress transcription at heterochromatic sites. SUV39H1 methylates histone H3 on lysine 9, which generates a binding site for HP1 proteins that plays a role in heterochromatin formation and gene silencing.