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SUV39H1 Antibody
Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM1190a

Specification

SUV39H1 Antibody - Product Information

Application	**WB,E**
Primary Accession	O43463
Other Accession	NP_003164
Reactivity	**Human, Mouse**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**Mouse IgG1**

SUV39H1 Antibody - Additional Information

Gene ID 6839

Other Names
Histone-lysine N-methyltransferase SUV39H1, Histone H3-K9 methyltransferase 1, H3-K9-HMTase 1, Lysine N-methyltransferase 1A, Position-effect variegation 3-9 homolog, Suppressor of variegation 3-9 homolog 1, Su(var)3-9 homolog 1, SUV39H1, KMT1A, SUV39H

Target/Specificity
This SUV39H1 antibody was raised using purified recombinant GST fusion protein encoding N-terminal of human SUV39H1.

Dilution
WB~~1:500~1000

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.

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

Precautions
SUV39H1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

SUV39H1 Antibody - Protein Information

Name SUV39H1

Synonyms KMT1A, SUV39H

Function Histone methyltransferase that specifically trimethylates 'Lys-9' of histone H3 using

monomethylated H3 'Lys-9' as substrate. Also weakly methylates histone H1 (in vitro). 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 large 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.

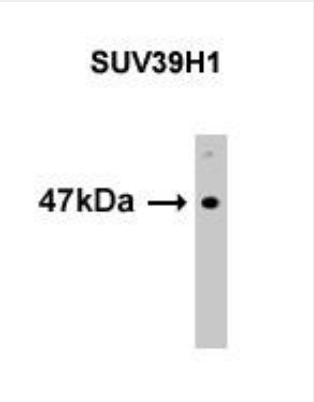
Cellular Location
Nucleus. Nucleus lamina. Nucleus, nucleoplasm Chromosome, centromere. Note=Associates with centromeric constitutive heterochromatin

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 Cytomety
- Cell Culture

SUV39H1 Antibody - Images



Western analysis of extracts from 293 cells using SUV39H1 antibody.

SUV39H1 Antibody - Background

This gene is a member of the suppressor of variegation 3-9 homolog family and encodes a protein with a chromodomain and a C-terminal SET domain. This nuclear protein moves to the centromeres during mitosis and functions as a histone methyltransferase, methylating Lys-9 of histone H3. Overall, it plays a vital role in heterochromatin organization, chromosome segregation, and mitotic progression.

SUV39H1 Antibody - References

MDM2 recruitment of lysine methyltransferases regulates p53 transcriptional output. Chen L, et al. EMBO J, 2010 Aug 4. PMID 20588255.
EVI-1 interacts with histone methyltransferases SUV39H1 and G9a for transcriptional repression and bone marrow immortalization. Goyama S, et al. Leukemia, 2010 Jan. PMID 19776757.
p21(WAF1) gene promoter is epigenetically silenced by CTIP2 and SUV39H1. Cherrier T, et al. Oncogene, 2009 Sep 24. PMID 19581932.
Inhibition of SUV39H1 methyltransferase activity by DBC1. Li Z, et al. J Biol Chem, 2009 Apr 17. PMID 19218236.
A novel interaction between the proto-oncogene Evi1 and histone methyltransferases, SUV39H1 and G9a. Spensberger D, et al. FEBS Lett, 2008 Aug 6. PMID 18619962.