

ARG54748 anti-KMT1A / SUV39H1 antibody

Package: 100 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes KMT1A / SUV39H1
Tested Reactivity	Hu, Ms
Tested Application	WB
Host	Rabbit
Clonality	Polyclonal
Target Name	KMT1A / SUV39H1
Species	Human
Immunogen	Purified recombinant GST fusion protein encoding N-terminal of Human SUV39H1 (NP_001269095.1).
Conjugation	Un-conjugated
Alternate Names	H3-K9-HMTase 1; KMT1A; MG44; Position-effect variegation 3-9 homolog; SUV39H; Lysine N-methyltransferase 1A; Su; Histone-lysine N-methyltransferase SUV39H1; EC 2.1.1.43; Histone H3-K9 methyltransferase 1; var; Suppressor of variegation 3-9 homolog 1

Application Instructions

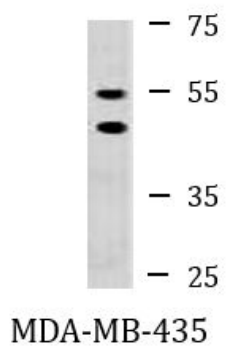
Application table	<table><thead><tr><th>Application</th><th>Dilution</th></tr></thead><tbody><tr><td>WB</td><td>1:1000</td></tr></tbody></table>	Application	Dilution	WB	1:1000
Application	Dilution				
WB	1:1000				
Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.				
Positive Control	MDA-MB-435				

Properties

Form	Liquid
Purification	Purification with Protein G.
Buffer	PBS and 0.09% (W/V) Sodium azide
Preservative	0.09% (W/V) Sodium azide
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Database links	GeneID: 20937 Mouse GeneID: 6839 Human Swiss-port # O43463 Human Swiss-port # O54864 Mouse
Gene Symbol	SUV39H1
Gene Full Name	suppressor of variegation 3-9 homolog 1 (Drosophila)
Background	This gene encodes an evolutionarily-conserved protein containing an N-terminal chromodomain and a C-terminal SET domain. The encoded protein is a histone methyltransferase that trimethylates lysine 9 of histone H3, which results in transcriptional gene silencing. Loss of function of this gene disrupts heterochromatin formation and may cause chromosome instability. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Aug 2013]
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. [UniProt]
Research Area	Cancer antibody; Gene Regulation antibody; Microbiology and Infectious Disease antibody
Calculated Mw	48 kDa
PTM	Phosphorylated on serine residues, and to a lesser degree, on threonine residues. The phosphorylated form is stabilized by SBF1 and is less active in its transcriptional repressor function. Acetylated at Lys-266, leading to inhibition of enzyme activity. SIRT1-mediated deacetylation relieves this inhibition.
Cellular Localization	Nucleus. Nucleus lamina. Nucleus, nucleoplasm. Chromosome, centromere. Note=Associates with centromeric constitutive heterochromatin



ARG54748 anti-KMT1A / SUV39H1 antibody WB image

Western blot: 35 µg of MDA-MB-435 cell lysate stained with ARG54748 anti-KMT1A / SUV39H1 antibody.