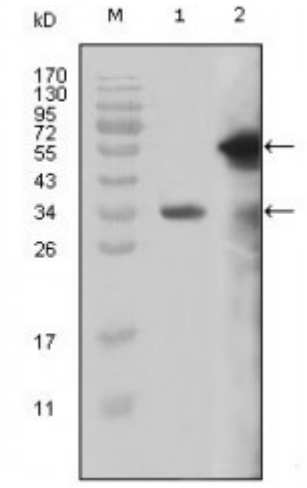
Anti-MLL antibody



Description	Mouse monoclonal to MLL.

Model	STJ98246
Host	Mouse
Reactivity	Human
Applications	ELISA, IHC, WB
Immunogen	Purified recombinant fragment of MLL (aa3751-3968) expressed in E. Coli.
Immunogen Region	3751-3968aa
Gene ID	4297
Gene Symbol	KMT2A
Dilution range	WB 1:500-1:2000IHC 1:200-1:1000ELISA 1:10000
Specificity	MLL Monoclonal Antibody detects endogenous levels of MLL protein.
Tissue Specificity	Heart, lung, brain and T- and B-lymphocytes.
Purification	Affinity purification
Clone ID	10F8D7
Note	For Research Use Only (RUO).
Protein Name	Histone-lysine N-methyltransferase 2A Lysine N-methyltransferase 2A ALL-1 CXXC-type zinc finger protein 7 Myeloid/lymphoid or mixed-lineage leukemia Myeloid/lymphoid or mixed-lineage leukemia protein 1 Trithorax-like pr
Clonality	Monoclonal

Conjugation	Unconjugated
Isotype	IgG1
Formulation	Ascitic fluid containing 0.03% sodium azide.
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:7132OMIM:159555
Alternative Names	Histone-lysine N-methyltransferase 2A Lysine N-methyltransferase 2A ALL-1 CXXC-type zinc finger protein 7 Myeloid/lymphoid or mixed-lineage leukemia Myeloid/lymphoid or mixed-lineage leukemia protein 1 Trithorax-like pr
Function	Histone methyltransferase that plays an essential role in early development and hematopoiesis. Catalytic subunit of the MLL1/MLL complex, a multiprotein complex that mediates both methylation of 'Lys-4' of histone H3 (H3K4me) complex and acetylation of 'Lys-16' of histone H4 (H4K16ac). In the MLL1/MLL complex, it specifically mediates H3K4me, a specific tag for epigenetic transcriptional activation. Has weak methyltransferase activity by itself, and requires other component of the MLL1/MLL complex to obtain full methyltransferase activity. Has no activity toward histone H3 phosphorylated on 'Thr-3', less activity toward H3 dimethylated on 'Arg-8' or 'Lys-9', while it has higher activity toward H3 acetylated on 'Lys-9'. Required for transcriptional activation of HOXA9. Promotes PPP1R15A-induced apoptosis. Plays a critical role in the control of circadian gene expression and is essential for the transcriptional activation mediated by the CLOCK-ARNTL/BMAL1 heterodimer. Establishes a permissive chromatin state for circadian transcription by mediating a rhythmic methylation of 'Lys-4' of histone H3 (H3K4me) and this histone modification directs the circadian acetylation at H3K9 and H3K14 allowing the recruitment of CLOCK-ARNTL/BMAL1 to chromatin .
Sequence and Domain Family	The 9aaTAD motif is a transactivation domain present in a large number of yeast and animal transcription factors. The SET domain structure is atypical and is not in an optimal position to have methyltransferase activity. It requires other components of the MLL1/MLL complex, such as ASH2L or RBBP5, to order the active site and obtain optimal histone methyltransferase activity. The CXXC-type zinc finger binds bind to nonmethyl-CpG dinucleotides.
Cellular Localization	Nucleus MLL cleavage product N320: Nucleus.. MLL cleavage product C180: Nucleus. Localizes to a diffuse nuclear pattern when not associated with MLL cleavage product N320.
Post-translational Modifications	Proteolytic cleavage by TASP1 generates MLL cleavage product N320 and MLL cleavage product C180, which reassemble through a non-covalent association. 2 cleavage sites exist, cleavage site 1 (CS1) and cleavage site 2 (CS2), to generate MLL cleavage products N320 and C180. CS2 is the major site.