

**MLL Polyclonal Antibody**  
**Catalog # AP74102****Specification****MLL Polyclonal Antibody - Product Information**

Application	IHC
Primary Accession	<a href="#">Q03164</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal

**MLL Polyclonal Antibody - Additional Information****Gene ID** 4297**Other Names**

Histone-lysine N-methyltransferase MLL (EC 2.1.1.43) (ALL-1) (CXXC-type zinc finger protein 7) (Lysine N-methyltransferase 2A) (KMT2A) (Trithorax-like protein) (Zinc finger protein HRX) [Cleaved into: MLL cleavage product N320 (N-terminal cleavage product of 320 kDa) (p320); MLL cleavage product C180 (C-terminal cleavage product of 180 kDa) (p180)]

**Dilution**

IHC~~IHC-p 1:50-200, ELISA 1:10000-20000

**Format**

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

**Storage Conditions**

-20°C

**MLL Polyclonal Antibody - Protein Information****Name** KMT2A**Synonyms** ALL1, CXXC7, HRX, HTRX, MLL, MLL1, TRX1**Function**

Histone methyltransferase that plays an essential role in early development and hematopoiesis (PubMed: <a href="http://www.uniprot.org/citations/12453419" target="\_blank">12453419</a>, PubMed: <a href="http://www.uniprot.org/citations/15960975" target="\_blank">15960975</a>, PubMed: <a href="http://www.uniprot.org/citations/19187761" target="\_blank">19187761</a>, PubMed: <a href="http://www.uniprot.org/citations/19556245" target="\_blank">19556245</a>, PubMed: <a href="http://www.uniprot.org/citations/20677832" target="\_blank">20677832</a>, PubMed: <a href="http://www.uniprot.org/citations/21220120" target="\_blank">21220120</a>, PubMed: <a href="http://www.uniprot.org/citations/26886794" target="\_blank">26886794</a>). 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) (PubMed: <a href="http://www.uniprot.org/citations/12453419" target="\_blank">12453419</a>)

target="\_blank">12453419</a>, PubMed:<a href="http://www.uniprot.org/citations/15960975" target="\_blank">15960975</a>, PubMed:<a href="http://www.uniprot.org/citations/19187761" target="\_blank">19187761</a>, PubMed:<a href="http://www.uniprot.org/citations/19556245" target="\_blank">19556245</a>, PubMed:<a href="http://www.uniprot.org/citations/20677832" target="\_blank">20677832</a>, PubMed:<a href="http://www.uniprot.org/citations/21220120" target="\_blank">21220120</a>, PubMed:<a href="http://www.uniprot.org/citations/24235145" target="\_blank">24235145</a>, PubMed:<a href="http://www.uniprot.org/citations/26886794" target="\_blank">26886794</a>). Catalyzes methyl group transfer from S-adenosyl-L- methionine to the epsilon-amino group of 'Lys-4' of histone H3 (H3K4) via a non-processive mechanism. Part of chromatin remodeling machinery predominantly forms H3K4me1 and H3K4me2 methylation marks at active chromatin sites where transcription and DNA repair take place (PubMed:<a href="http://www.uniprot.org/citations/12453419" target="\_blank">12453419</a>, PubMed:<a href="http://www.uniprot.org/citations/15960975" target="\_blank">15960975</a>, PubMed:<a href="http://www.uniprot.org/citations/19187761" target="\_blank">19187761</a>, PubMed:<a href="http://www.uniprot.org/citations/19556245" target="\_blank">19556245</a>, PubMed:<a href="http://www.uniprot.org/citations/20677832" target="\_blank">20677832</a>, PubMed:<a href="http://www.uniprot.org/citations/21220120" target="\_blank">21220120</a>, PubMed:<a href="http://www.uniprot.org/citations/25561738" target="\_blank">25561738</a>, PubMed:<a href="http://www.uniprot.org/citations/26886794" target="\_blank">26886794</a>). Has weak methyltransferase activity by itself, and requires other component of the MLL1/MLL complex to obtain full methyltransferase activity (PubMed:<a href="http://www.uniprot.org/citations/19187761" target="\_blank">19187761</a>, PubMed:<a href="http://www.uniprot.org/citations/26886794" target="\_blank">26886794</a>). 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' (PubMed:<a href="http://www.uniprot.org/citations/19187761" target="\_blank">19187761</a>). Binds to unmethylated CpG elements in the promoter of target genes and helps maintain them in the nonmethylated state (PubMed:<a href="http://www.uniprot.org/citations/20010842" target="\_blank">20010842</a>). Required for transcriptional activation of HOXA9 (PubMed:<a href="http://www.uniprot.org/citations/12453419" target="\_blank">12453419</a>, PubMed:<a href="http://www.uniprot.org/citations/20010842" target="\_blank">20010842</a>, PubMed:<a href="http://www.uniprot.org/citations/20677832" target="\_blank">20677832</a>). Promotes PPP1R15A-induced apoptosis (PubMed:<a href="http://www.uniprot.org/citations/10490642" target="\_blank">10490642</a>). Plays a critical role in the control of circadian gene expression and is essential for the transcriptional activation mediated by the CLOCK-BMAL1 heterodimer (By similarity). 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-BMAL1 to chromatin (By similarity). Also has auto-methylation activity on Cys-3882 in absence of histone H3 substrate (PubMed:<a href="http://www.uniprot.org/citations/24235145" target="\_blank">24235145</a>).

### Cellular Location

Nucleus [MLL cleavage product C180]: Nucleus. Note=Localizes to a diffuse nuclear pattern when not associated with MLL cleavage product N320

### Tissue Location

Heart, lung, brain and T- and B-lymphocytes.

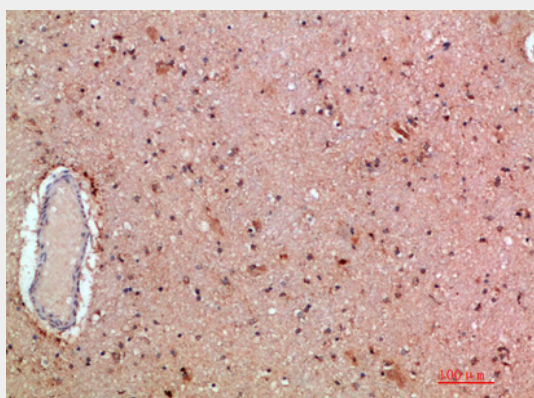
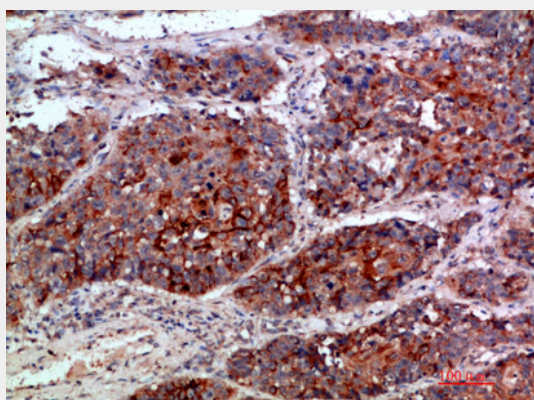
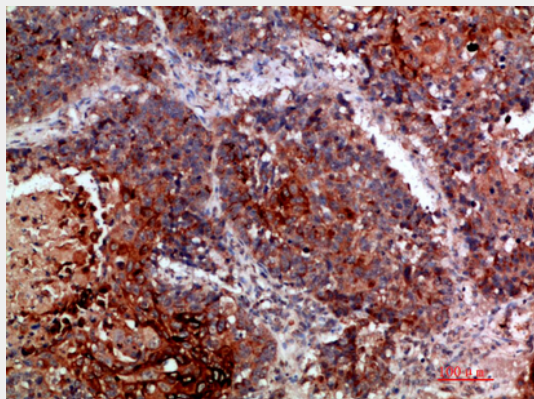
## MLL Polyclonal Antibody - Protocols

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

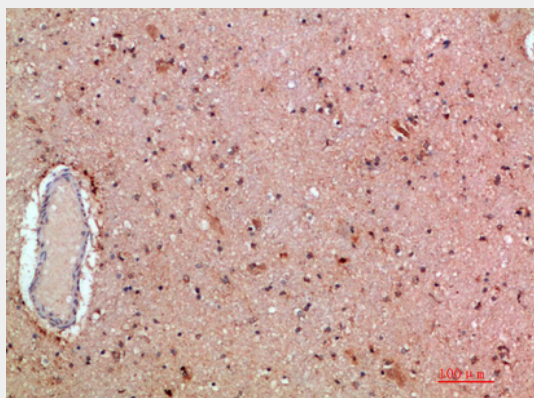
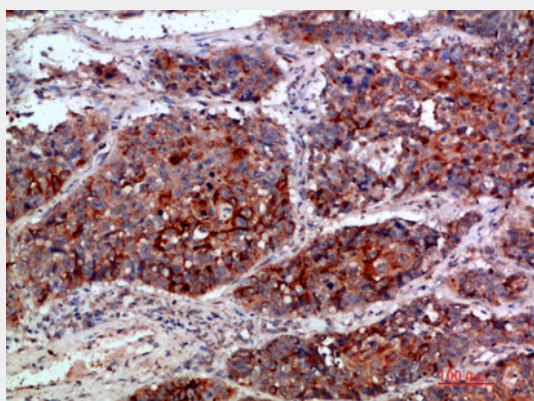
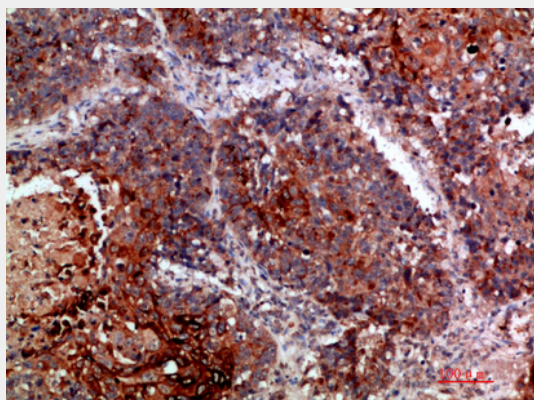
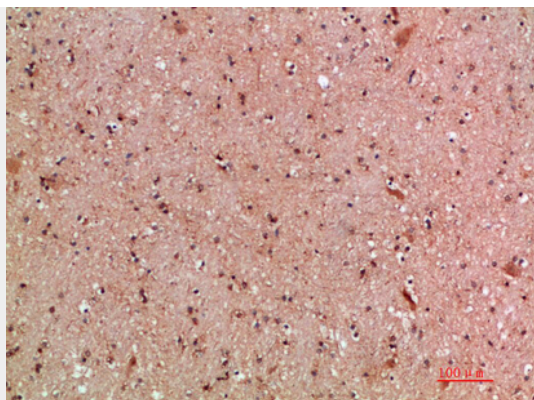
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)

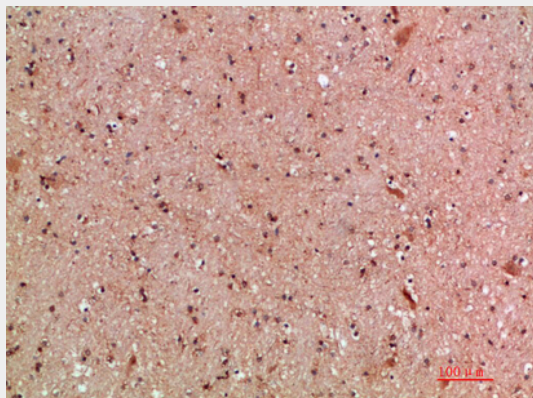
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### MLL Polyclonal Antibody - Images









### MLL Polyclonal Antibody - Background

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 (PubMed:12453419, PubMed:20677832, PubMed:26886794). Has weak methyltransferase activity by itself, and requires other component of the MLL1/MLL complex to obtain full methyltransferase activity (PubMed:19187761, PubMed:26886794). 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'. Binds to unmethylated CpG elements in the promoter of target genes and helps maintain them in the nonmethylated state (PubMed:20010842). Required for transcriptional activation of HOXA9 (PubMed:12453419, PubMed:20677832, PubMed:20010842). 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 (By similarity).