

MLL1 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10615**Specification**

MLL1 Antibody - Product Information

Application	WB
Primary Accession	Q03164
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	431764

MLL1 Antibody - Additional Information**Gene ID 4297**

Application & Usage	Western blotting (1:500 - 1:2000). However, the optimal concentrations should be determined individually. K562 nuclear extract can be used as a positive control. The antibody recognizes the MLL1 of human and mouse origins. Reactivity to other species has not been tested.
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Other Names

MLL, MLL1, myeloid/lymphoid or mixed-lineage leukemia, HRX, TRX1, HTRX1, human trithorax 1, ALL-1, acute lymphocytic leukemia 1, CXXC7, HGNC:7132

Target/Specificity

MLL1

Antibody Form

Liquid

Appearance

Colorless liquid

Formulation

100 µl affinity purified rabbit polyclonal antibody in phosphate-buffered saline (PBS) containing 30% glycerol, 0.5% BSA and 0.01% thimerosal.

Handling

The antibody solution should be gently mixed before use.

Reconstitution & Storage

-20 °C

Background Descriptions

MLL1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Histone methyltransferase that plays an essential role in early development and hematopoiesis (PubMed:[15960975](http://www.uniprot.org/citations/15960975)), (PubMed:[12453419](http://www.uniprot.org/citations/12453419)), (PubMed:[15960975](http://www.uniprot.org/citations/15960975)), (PubMed:[19556245](http://www.uniprot.org/citations/19556245)), (PubMed:[19187761](http://www.uniprot.org/citations/19187761)), (PubMed:[20677832](http://www.uniprot.org/citations/20677832)), (PubMed:[21220120](http://www.uniprot.org/citations/21220120)), (PubMed:[26886794](http://www.uniprot.org/citations/26886794)). 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:[15960975](http://www.uniprot.org/citations/15960975), PubMed:[12453419](http://www.uniprot.org/citations/12453419), PubMed:[15960975](http://www.uniprot.org/citations/15960975), PubMed:[19556245](http://www.uniprot.org/citations/19556245), PubMed:[24235145](http://www.uniprot.org/citations/24235145), PubMed:[19187761](http://www.uniprot.org/citations/19187761), PubMed:[20677832](http://www.uniprot.org/citations/20677832), PubMed:[21220120](http://www.uniprot.org/citations/21220120), PubMed:[26886794](http://www.uniprot.org/citations/26886794)). 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:[25561738](http://www.uniprot.org/citations/25561738), PubMed:[15960975](http://www.uniprot.org/citations/15960975), PubMed:[12453419](http://www.uniprot.org/citations/12453419), PubMed:[15960975](http://www.uniprot.org/citations/15960975), PubMed:[19556245](http://www.uniprot.org/citations/19556245), PubMed:[19187761](http://www.uniprot.org/citations/19187761), PubMed:[20677832](http://www.uniprot.org/citations/20677832), PubMed:[21220120](http://www.uniprot.org/citations/21220120), PubMed:[26886794](http://www.uniprot.org/citations/26886794)). Has weak methyltransferase activity by itself, and requires other component of the MLL1/MLL complex to obtain full methyltransferase activity (PubMed:[19187761](http://www.uniprot.org/citations/19187761), PubMed:[26886794](http://www.uniprot.org/citations/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' (PubMed:[19187761](http://www.uniprot.org/citations/19187761)). Binds to unmethylated CpG elements in the promoter of target genes and helps maintain them in the nonmethylated state (PubMed:[20010842](http://www.uniprot.org/citations/20010842), PubMed:[12453419](http://www.uniprot.org/citations/12453419), PubMed:[20677832](http://www.uniprot.org/citations/20677832), PubMed:[20010842](http://www.uniprot.org/citations/20010842)). Required for transcriptional activation of HOXA9 (PubMed:[12453419](http://www.uniprot.org/citations/12453419), PubMed:[20677832](http://www.uniprot.org/citations/20677832), PubMed:[20010842](http://www.uniprot.org/citations/20010842)).

[20010842](http://www.uniprot.org/citations/20010842)). Promotes PPP1R15A- induced apoptosis (PubMed: [10490642](http://www.uniprot.org/citations/10490642)). 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: [24235145](http://www.uniprot.org/citations/24235145)).

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.

MLL1 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](#)

MLL1 Antibody - Images

MLL1 Antibody - Background

Eukaryotic RNA polymerase II mediates the synthesis of mature and functional messenger RNA. This is a multistep process, called the transcription cycle, that includes five stages: preinitiation, promoter, clearance, elongation and termination. Elongation is thought to be a critical stage for the regulation of gene expression. ELL (11-19 lysine-rich leukemia protein, also designated MEN) functions as an RNA polymerase II elongation factor that increases the rate of transcription by suppressing transient pausing by RNA polymerase II. Also, ELL is thought to regulate cellular proliferation. ELL is abundantly expressed in peripheral blood leukocytes, skeletal muscle, placenta and testis, and has lower expression in spleen, thymus, heart, brain, lung, kidney, liver and ovary. The gene encoding human ELL, which maps to chromosome 19p13.1, is one of several genes which undergo translocation with the MLL gene on chromosome 11q23 in acute myeloid leukemia. MLL (myeloid/lymphoid leukemia, also designated ALL-1 and HRX) regulates embryonal and hematopoietic development.