

MLLT3 Antibody (N-term H54)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6190c**Specification**

MLLT3 Antibody (N-term H54) - Product Information

Application	WB,E
Primary Accession	P42568
Other Accession	A2AM29
Reactivity	Human
Predicted	Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	63351
Antigen Region	39-65

MLLT3 Antibody (N-term H54) - Additional Information**Gene ID** 4300**Other Names**

Protein AF-9, ALL1-fused gene from chromosome 9 protein, Myeloid/lymphoid or mixed-lineage leukemia translocated to chromosome 3 protein, YEATS domain-containing protein 3, MLLT3, AF9, YEATS3

Target/Specificity

This MLLT3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 39-65 amino acids from the N-terminal region of human MLLT3.

Dilution

WB~~1:1000

E~~Use at an assay dependent concentration.

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation 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

MLLT3 Antibody (N-term H54) is for research use only and not for use in diagnostic or therapeutic procedures.

MLLT3 Antibody (N-term H54) - Protein Information

Name MLLT3 {ECO:0000303|PubMed:16001262, ECO:0000312|HGNC:HGNC:7136}

Function Chromatin reader component of the super elongation complex (SEC), a complex required to increase the catalytic rate of RNA polymerase II transcription by suppressing transient pausing by the polymerase at multiple sites along the DNA (PubMed:[20159561](#), PubMed:[20471948](#), PubMed:[25417107](#), PubMed:[27105114](#), PubMed:[27545619](#)). Specifically recognizes and binds acylated histone H3, with a preference for histone H3 that is crotonylated (PubMed:[25417107](#), PubMed:[27105114](#), PubMed:[27545619](#), PubMed:[30374167](#), PubMed:[30385749](#)). Crotonylation marks active promoters and enhancers and confers resistance to transcriptional repressors (PubMed:[25417107](#), PubMed:[27105114](#), PubMed:[27545619](#)). Recognizes and binds histone H3 crotonylated at 'Lys-9' (H3K9cr), and with slightly lower affinity histone H3 crotonylated at 'Lys-18' (H3K18cr) (PubMed:[27105114](#)). Also recognizes and binds histone H3 acetylated and butyrylated at 'Lys-9' (H3K9ac and H3K9bu, respectively), but with lower affinity than crotonylated histone H3 (PubMed:[25417107](#), PubMed:[27105114](#), PubMed:[30385749](#)). In the SEC complex, MLLT3 is required to recruit the complex to crotonylated histones (PubMed:[27105114](#), PubMed:[27545619](#)). Recruitment of the SEC complex to crotonylated histones promotes recruitment of DOT1L on active chromatin to deposit histone H3 'Lys-79' methylation (H3K79me) (PubMed:[25417107](#)). Plays a key role in hematopoietic stem cell (HSC) maintenance by preserving, rather than conferring, HSC stemness (PubMed:[31776511](#)). Acts by binding to the transcription start site of active genes in HSCs and sustaining level of H3K79me2, probably by recruiting DOT1L (PubMed:[31776511](#)).

Cellular Location

Nucleus {ECO:0000255|PROSITE-ProRule:PRU00376, ECO:0000269|PubMed:27105114}. Chromosome. Note=Colocalizes with acylated histone H3 (PubMed:25417107, PubMed:27105114). Colocalizes with histone H3 crotonylated at 'Lys-18' (H3K18cr) (PubMed:27105114)

Tissue Location

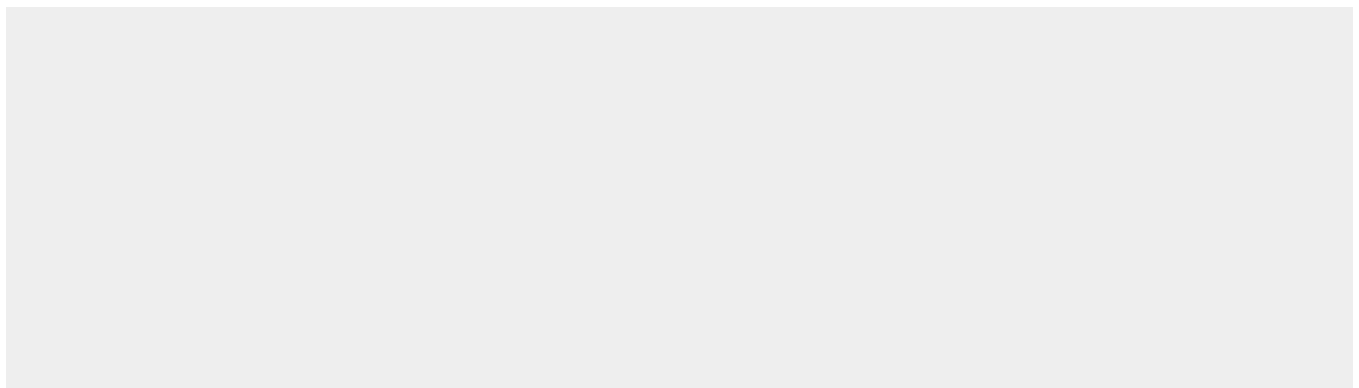
Enriched in undifferentiated hematopoietic stem cells in fetal liver, cord blood and bone marrow

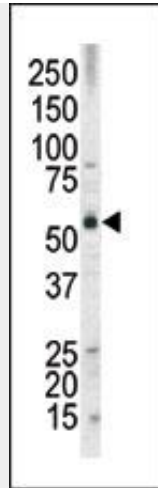
MLLT3 Antibody (N-term H54) - Protocols

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](#)

MLLT3 Antibody (N-term H54) - Images





The anti-MLLT3 Pab (Cat. #AP6190c) is used in Western blot to detect MLLT3 in HL60 tissue lysate

MLLT3 Antibody (N-term H54) - Background

The human AF9 gene is one of the most common fusion partner genes with the ALL1 gene at 11q23 (also called MLL), resulting in the t(9;11)(p22;q23). The AF9 gene is more than 100 kb, and 2 patient breakpoint cluster regions (BCRs) have been identified; BCR1 is within intron 4, previously called site A, whereas BCR2 or site B spans introns 7 and 8. Several different structural elements have been identified in AF9, including a colocalizing in vivo DNA topo II cleavage site and an in vitro DNase I hypersensitive (DNase I HS) site in intron 7 in BCR2. Reversibility experiments demonstrated a religation of the topo II cleavage sites. In addition, 2 scaffold associated regions (SARs) are located centromeric to the topo II and DNase I HS cleavage sites and border breakpoint regions in 2 leukemic cells lines: SAR1 is located in intron 4, whereas SAR2 encompasses parts of exons 5-7. The patient breakpoint regions of AF9 share the same structural elements as the MLL BCR. A DNA breakage and repair model for nonhomologous recombination between MLL and its partner genes, particularly AF9, has been proposed.

MLLT3 Antibody (N-term H54) - References

Iida, S., et al., *Oncogene* 8(11):3085-3092 (1993).
Nakamura, T., et al., *Proc. Natl. Acad. Sci. U.S.A.* 90(10):4631-4635 (1993).
Strissel, P. L., et al., *Hum. Molec. Genet.* 9: 1671-1679 (2000).