

Product datasheet

Anti-KMT2A / MLL antibody ab52099

Overview

Product name	Anti-KMT2A / MLL antibody
Description	Rabbit polyclonal to KMT2A / MLL
Host species	Rabbit
Tested applications	Suitable for: WB
Species reactivity	Reacts with: Mouse, Human
Immunogen	Synthetic peptide (Human) from between a.a. 3900 and the C-terminus (3969) of MLL.
Positive control	K562 nuclear extract

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	Preservative: 0.02% Thimerosal (merthiolate) Constituents: 30% Glycerol, 1% BSA, PBS
Purity	Protein A purified
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab52099** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		1/500 - 1/2000. Predicted molecular weight: 432 kDa.

Target

Function	Histone methyltransferase that plays an essential role in early development and hematopoiesis.
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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.

Tissue specificity

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

Involvement in disease

Note=Chromosomal aberrations involving MLL are a cause of acute leukemias. Translocation t(1;11)(q21;q23) with MLLT11/AF1Q; translocation t(3;11)(p21;q23) with NCKIPSD/AF3p21; translocation t(3,11)(q25,q23) with GMPS; translocation t(4;11)(q21;q23) with AFF1/MLLT2/AF4; insertion ins(5;11)(q31;q13q23) with AFF4/AF5Q31; translocation t(5;11)(q12;q23) with AF5-alpha/CENPK; translocation t(6;11)(q27;q23) with MLLT4/AF6; translocation t(9;11)(p22;q23) with MLLT3/AF9; translocation t(10;11)(p11.2;q23) with AB11; translocation t(10;11)(p12;q23) with MLLT10/AF10; t(11;15)(q23;q14) with CASC5 and ZFYVE19; translocation t(11;17)(q23;q21) with MLLT6/AF17; translocation t(11;19)(q23;p13.3) with ELL; translocation t(11;19)(q23;p13.3) with MLLT1/ENL; translocation t(11;19)(q23;p23) with GAS7; translocation t(X;11)(q13;q23) with FOXO4/AFX1. Translocation t(3;11)(q28;q23) with LPP. Translocation t(10;11)(q22;q23) with TET1. Translocation t(9;11)(q34;q23) with DAB2IP. Translocation t(4;11)(p12;q23) with FRYL. Fusion proteins MLL-MLLT1, MLL-MLLT3 and MLL-ELL interact with PPP1R15A and, on the contrary to unfused MLL, inhibit PPP1R15A-induced apoptosis.

Note=A chromosomal aberration involving MLL may be a cause of chronic neutrophilic leukemia. Translocation t(4;11)(q21;q23) with SEPT11.

Sequence similarities

Belongs to the histone-lysine methyltransferase family. TRX/MLL subfamily.
Contains 3 A.T hook DNA-binding domains.
Contains 1 bromo domain.
Contains 1 CXXC-type zinc finger.
Contains 1 FY-rich C-terminal domain.
Contains 1 FY-rich N-terminal domain.
Contains 3 PHD-type zinc fingers.
Contains 1 post-SET domain.
Contains 1 SET domain.

Domain

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 to nonmethyl-CpG dinucleotides.

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.

Cellular localization

Nucleus and Nucleus. Localizes to a diffuse nuclear pattern when not associated with MLL cleavage product N320.

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