abcam

Product datasheet

Anti-KMT2A / MLL antibody [EPR22647-8] ab234435

KO VALIDATED Recombinant RabMAb

1 Abreviews 3 Images

Overview

Product name	Anti-KMT2A / MLL antibody [EPR22647-8]
Description	Rabbit monoclonal [EPR22647-8] to KMT2A / MLL
Host species	Rabbit
Tested applications	**Suitable for:** WB **Unsuitable for:** Flow Cyt,ICC/IF,IHC-P or IP
Species reactivity	**Reacts with:** Human
Immunogen	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: Wild-type HAP1 whole, KMT2A/MLL knockout HAP1 whole and HeLa lysates.
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR22647-8
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab234435 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)	1/1000.

Application notes Is unsuitable for Flow Cyt,ICC/IF,IHC-P or IP.

Target

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.

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

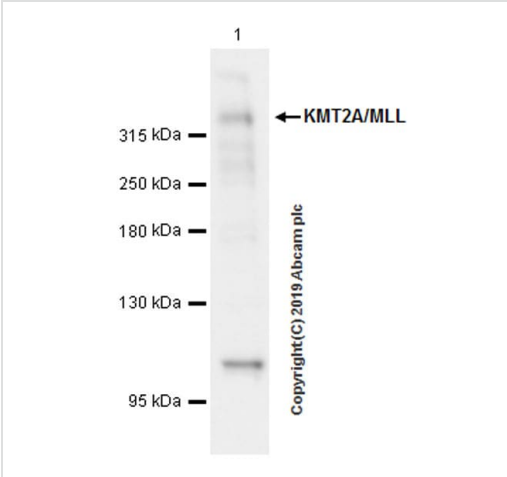
Involvement in disease Note=Chromosomal aberrations involving MLL are a cause of acute leukemias. Translocation t(1;11)(q21;q23) with MLLT11/AF1Q; translocation t(3;11)(p21;q23) with NCKIPSD/AF3p21; translocation t(3,11)(q25,q23) with GMPS; translocation t(4;11)(q21;q23) with AFF1/MLLT2/AF4; insertion 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 ABI1; 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 bind 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.

Images



Western blot - Anti-KMT2A / MLL antibody [EPR22647-8] (ab234435)

Anti-KMT2A / MLL antibody [EPR22647-8] (ab234435) at 1/1000 dilution + HeLa (human cervix adenocarcinoma epithelial cell), whole cell lysate at 40 µg

Secondary

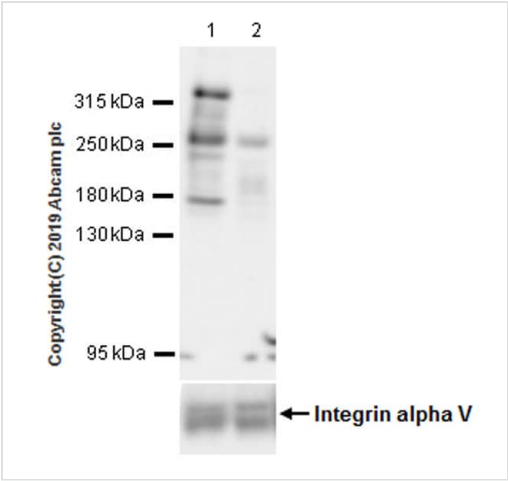
Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/100000 dilution

Observed band size: 320 kDa

Blocking and Dilution Buffer and concentration: 5% NFDM/TBST.

The molecular weight observed is consistent with what has been described in the literature (PMID: 12482972) This antibody reacts with an unidentifiable protein below 315 kDa.

Exposure time: 5.5 seconds



Western blot - Anti-KMT2A / MLL antibody [EPR22647-8] (ab234435)

All lanes : Anti-KMT2A / MLL antibody [EPR22647-8] (ab234435) at 1/1000 dilution

Lane 1 : Wild-type HAP1 whole cell lysate
Lane 2 : KMT2A/MLL knockout HAP1 whole cell lysate

Lysates/proteins at 20 µg per lane.

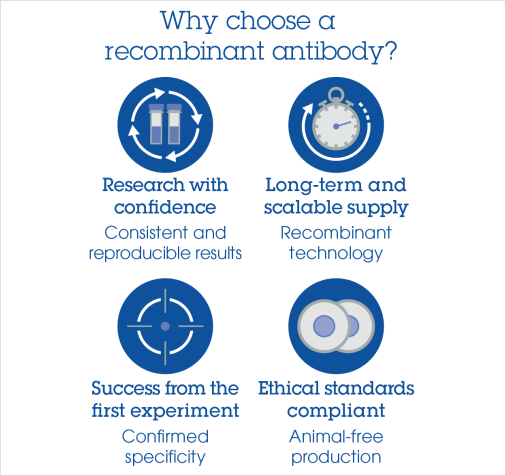
Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

Observed band size: 320 kDa

Blocking and Dilution Buffer and concentration: 5% NFDM/TBST.

The molecular weight observed is consistent with what has been described in the literature (PMID: 12482972). This antibody reacts with unidentifiable proteins below 315 kDa. ab234435 was shown to specifically react with KMT2A/MLL in wild-type HAP1 cells as signal was lost in KMT2A/MLL knockout cells. Wild-type and KMT2A/MLL knockout samples were subjected to SDS-PAGE. ab234435 and **ab181602** (Rabbit anti-GAPDH loading control) were incubated 1 hour at room temperature at 1/1000 dilution and 1/200,000 dilution respectively. Blots were developed with Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (**ab97051**) secondary antibody at 1/100,000 dilution for 1 hour at room temperature before imaging. The blot was developed on a BIO-RAD® ChemiDoc™ MP instrument using the ECL technique.

Exposure time: 48 seconds



Anti-KMT2A / MLL antibody [EPR22647-8]

(ab234435)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors