10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

KMT2A Antibody (aa3751-3968)
Mouse Monoclonal Antibody
Catalog # ALS12837

Specification

KMT2A Antibody (aa3751-3968) - Product Information

Application	**WB, IHC-P, E**
Primary Accession	Q03164
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Calculated MW	**432kDa KDa**
Dilution	**WB~~1:1000** **IHC-P~~N/A** **E~~N/A**

KMT2A Antibody (aa3751-3968) - Additional Information

Gene ID 4297

Other Names
Histone-lysine N-methyltransferase 2A, Lysine N-methyltransferase 2A, 2.1.1.43, ALL-1, CXXC-type zinc finger protein 7, Myeloid/lymphoid or mixed-lineage leukemia, Myeloid/lymphoid or mixed-lineage leukemia protein 1, Trithorax-like protein, Zinc finger protein HRX, MLL cleavage product N320, N-terminal cleavage product of 320 kDa, p320, MLL cleavage product C180, C-terminal cleavage product of 180 kDa, p180, KMT2A, ALL1, CXXC7, HRX, HTRX, MLL, MLL1, TRX1

Target/Specificity
Purified truncated recombinant MLL-Trx(aa3751-3968) is expressed in E. coli strain BL21 (DE3).

Precautions
KMT2A Antibody (aa3751-3968) is for research use only and not for use in diagnostic or therapeutic procedures.

KMT2A Antibody (aa3751-3968) - 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:12453419, PubMed:15960975, PubMed:19187761, PubMed:19556245, PubMed:20677832, PubMed:21220120,

PubMed: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:12453419, PubMed:15960975, PubMed:19187761, PubMed:19556245, PubMed:20677832, PubMed:21220120, PubMed:24235145, PubMed: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:12453419, PubMed:15960975, PubMed:19187761, PubMed:19556245, PubMed:20677832, PubMed:21220120, PubMed:25561738, 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' (PubMed:19187761). 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:20010842, PubMed:20677832). Promotes PPP1R15A-induced apoptosis (PubMed: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).

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.

Volume
50 µl

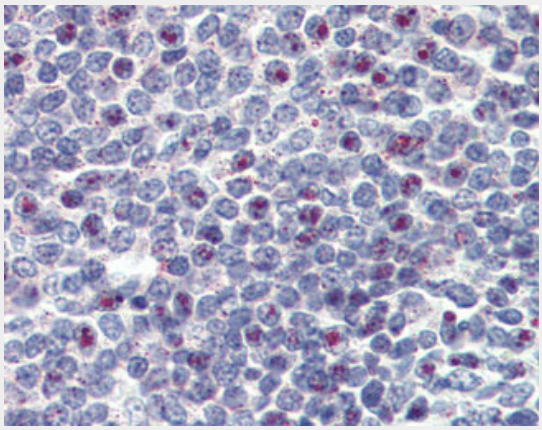
KMT2A Antibody (aa3751-3968) - Protocols

10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

KMT2A Antibody (aa3751-3968) - Images



Anti-MLL antibody IHC of human spleen.

KMT2A Antibody (aa3751-3968) - 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. 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. 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).

KMT2A Antibody (aa3751-3968) - References

Tkachuk D.C.,et al.Cell 71:691-700(1992).
Nilson I.,et al.Br. J. Haematol. 93:966-972(1996).
Taylor T.D.,et al.Nature 440:497-500(2006).
Yamamoto K.,et al.Oncogene 8:2617-2625(1993).
Gu Y.,et al.Cell 71:701-708(1992).