ARG54797
anti-KMT2A / MLL (N320) antibody [N4.4]

Package: 50 µg
Store at: -20°C

Summary

Product Description	Mouse Monoclonal antibody [N4.4] recognizes KMT2A / MLL (N320)
Tested Reactivity	Hu, Ms
Tested Application	ChIP, IHC-P, IP, WB
Specificity	The antibody react to full length and N320 fragment of KMT2A / MLL.
Host	Mouse
Clonality	Monoclonal
Clone	N4.4
Isotype	IgG
Target Name	KMT2A / MLL (N320)
Species	Human
Immunogen	Maltose-binding fusion protein containing Human MLL aa. 161-356 (Uniprot #Q03164).
Conjugation	Un-conjugated
Alternate Names	Zinc finger protein HRX; MLL1A; Myeloid/lymphoid or mixed-lineage leukemia; CXXC-type zinc finger protein 7; MLL1; HTRX1; Myeloid/lymphoid or mixed-lineage leukemia protein 1; TET1-MLL; MLL-AF9; EC 2.1.1.43; Lysine N-methyltransferase 2A; TRX1; HRX; MLL; N-terminal cleavage product of 320 kDa; ALL-1; p180; Trithorax-like protein; p320; MLL/GAS7; CXXC7; WDSTS; C-terminal cleavage product of 180 kDa; Histone-lysine N-methyltransferase 2A

Application Instructions

Application table

Application	Dilution
ChIP	Assay-dependent
IHC-P	5 µg/ml
IP	2 - 10 µg per 500 µl of cell lysate.
WB	2 µg/ml

Application Note	IHC-P: Antigen Retrieval: By heat mediation. * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.
Positive Control	K562 cell lysate.
Observed Size	~ 300 kDa

Properties

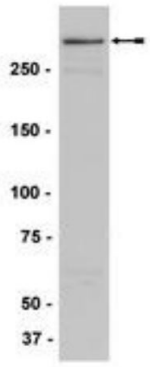
Form	Liquid
Purification	Protein G-purified

Buffer	PBS (pH 7.4)
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Database links	GeneID: 214162 Mouse GeneID: 4297 Human Swiss-port # P55200 Mouse Swiss-port # Q03164 Human
Gene Symbol	KMT2A
Gene Full Name	lysine (K)-specific methyltransferase 2A
Background	KMT2A gene encodes a transcriptional coactivator that plays an essential role in regulating gene expression during early development and hematopoiesis. The encoded protein contains multiple conserved functional domains. One of these domains, the SET domain, is responsible for its histone H3 lysine 4 (H3K4) methyltransferase activity which mediates chromatin modifications associated with epigenetic transcriptional activation. This protein is processed by the enzyme Taspase 1 into two fragments, MLL-C and MLL-N. These fragments reassociate and further assemble into different multiprotein complexes that regulate the transcription of specific target genes, including many of the HOX genes. Multiple chromosomal translocations involving this gene are the cause of certain acute lymphoid leukemias and acute myeloid leukemias. Alternate splicing results in multiple transcript variants.[provided by RefSeq, Oct 2010]
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. 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). [UniProt]
Research Area	Cancer antibody; Gene Regulation antibody
Calculated Mw	432 kDa
PTM	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. [UniProt]

Images



ARG54797 anti-KMT2A / MLL (N320) antibody [N4.4] WB image

Westerm blot: K562 cell nuclear extract stained with ARG54797 anti-KMT2A / MLL (N320) antibody [N4.4] at 2 µg/ml dilution.