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MLL2 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6183a

Product Information

Application	IHC-P-Leica, WB, E
Primary Accession	O14686
Other Accession	NP_003473
Reactivity	Human, Mouse
Predicted	Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB1919/1920
Calculated MW	593389
Antigen Region	4980-5009

Additional Information

Gene ID	8085
Other Names	Histone-lysine N-methyltransferase 2D, Lysine N-methyltransferase 2D, ALL1-related protein, Myeloid/lymphoid or mixed-lineage leukemia protein 2, KMT2D, ALR, MLL2, MLL4
Target/Specificity	This MLL2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 4980-5009 amino acids from the C-terminal region of human MLL2.
Dilution	IHC-P-Leica~~1:500 WB~~1:27000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
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	MLL2 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	KMT2D

Synonyms	ALR, MLL2, MLL4
Function	Histone methyltransferase that catalyzes methyl group transfer from S-adenosyl-L-methionine to the epsilon-amino group of 'Lys-4' of histone H3 (H3K4) (PubMed:25561738). Part of chromatin remodeling machinery predominantly forms H3K4me1 methylation marks at active chromatin sites where transcription and DNA repair take place (PubMed:17500065, PubMed:25561738). Acts as a coactivator for estrogen receptor by being recruited by ESR1, thereby activating transcription (PubMed:16603732).
Cellular Location	Nucleus.
Tissue Location	Expressed in most adult tissues, including a variety of hematoipoietic cells, with the exception of the liver

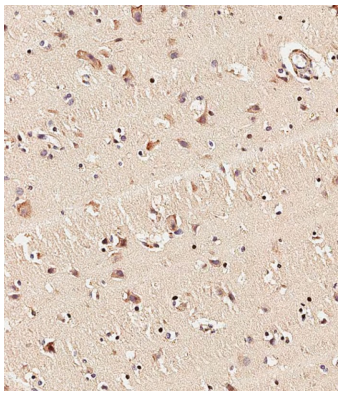
Background

The SET domain is a conserved C-terminal domain that characterizes proteins of the MLL family, including MLL2. The MLL SET domain is a histone H3 Lys4 (K4)-specific methyltransferase whose activity is stimulated with acetylated H3 peptides. The gene for MLL2 encodes a 5,262-amino acid protein containing a SET domain, 5 PHD fingers, potential zinc fingers, and a long run of glutamines interrupted by hydrophobic residues (mostly leucine). They also detected an alternatively spliced form encoding 4,957 amino acids and lacking an N-terminal zinc finger and PHD finger. By analysis of rodent/human hybrid cells and analysis of the Genebridge radiation hybrid panel, they mapped the gene to the 12p13.1-qter region. The 12q12-q13 region is involved in duplications and translocations associated with cancer. By database searching, Karlin et al. (2002) identified 192 human protein sequences that have multiple amino acid runs, many of which are associated with disease, including cancer. Karlin et al. (2002) found that a key aspect of 82 of these protein sequences is their role in transcription, translation, and developmental regulation. MLL2 is a striking example of proteins with multiple amino acid runs, with 22 glutamine runsGenes encoding a significant number of long amino acid runs are potentially associated with diseases, such as cancer.

References

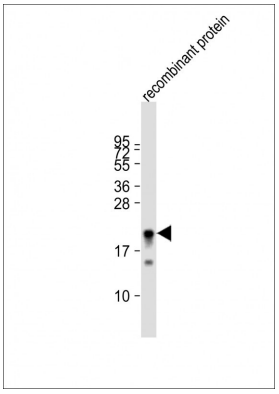
Prasad, R., et al., Oncogene 15(5):549-560 (1997).

Images



Immunohistochemical analysis of paraffin-embedded Human brain tissue using AP6183a performed on the Leica® BOND RXm. Tissue was fixed with formaldehyde at room temperature, antigen retrieval was by heat mediation with a EDTA buffer (pH9. 0). Samples were incubated with primary antibody(1:500) for 1 hours at room temperature. A undiluted biotinylated CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.

Anti-MLL2 Antibody (T4720) at 1:80000 dilution + recombinant protein whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 593 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Citations

- UTX and MLL4 coordinately regulate transcriptional programs for cell proliferation and invasiveness in breast cancer cells.
- Trans-tail regulation of MLL4-catalyzed H3K4 methylation by H4R3 symmetric dimethylation is mediated by a tandem PHD of MLL4.
- Bisphenol-A and diethylstilbestrol exposure induces the expression of breast cancer associated long noncoding RNA HOTAIR in vitro and in vivo.
- Genomic Location of PRMT6-Dependent H3R2 Methylation Is Linked to the Transcriptional Outcome of Associated Genes.

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