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MLL5 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14173a

Product Information

Application	WB, E
Primary Accession	Q8IZD2
Other Accession	Q3UG20, Q8NFF8, NP_891847.1, NP_061152.3
Reactivity	Human
Predicted	Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB19215
Calculated MW	204965
Antigen Region	93-120

Additional Information

Gene ID	55904
Other Names	Histone-lysine N-methyltransferase 2E, Lysine N-methyltransferase 2E, Myeloid/lymphoid or mixed-lineage leukemia protein 5, KMT2E, MLL5
Target/Specificity	This MLL5 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 93-120 amino acids from the N-terminal region of human MLL5.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	MLL5 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	KMT2E
Synonyms	MLL5

Function	Associates with chromatin regions downstream of transcriptional start sites of active genes and thus regulates gene transcription (PubMed:23629655, PubMed:23798402, PubMed:24130829). Chromatin interaction is mediated via the binding to tri-methylated histone H3 at 'Lys-4' (H3K4me3) (PubMed:23798402, PubMed:24130829). Key regulator of hematopoiesis involved in terminal myeloid differentiation and in the regulation of hematopoietic stem cell (HSCs) self-renewal by a mechanism that involves DNA methylation (By similarity). Also acts as an important cell cycle regulator, participating in cell cycle regulatory network machinery at multiple cell cycle stages including G1/S transition, S phase progression and mitotic entry (PubMed:14718661, PubMed:18573682, PubMed:19264965, PubMed:23629655). Recruited to E2F1 responsive promoters by HCFC1 where it stimulates tri-methylation of histone H3 at 'Lys-4' and transcriptional activation and thereby facilitates G1 to S phase transition (PubMed:23629655). During myoblast differentiation, required to suppress inappropriate expression of S-phase-promoting genes and maintain expression of determination genes in quiescent cells (By similarity).
Cellular Location	Chromosome. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Nucleus speckle. Note=Absent from the nucleolus (PubMed:14718661). Localizes to chromosome during interphase and to centrosomes during mitosis (PubMed:23798402). Dissociation from mitotic chromosome is likely due to histone H3 phosphorylation on 'Thr-3' and 'Thr-6' (PubMed:23798402). [Isoform NKp44L]: Cytoplasm. Cell membrane; Peripheral membrane protein
Tissue Location	Widely expressed in both adult and fetal tissues (PubMed:12101424, PubMed:23958951). Highest levels of expression observed in fetal thymus and kidney and in adult hematopoietic tissues, jejunum and cerebellum (PubMed:12101424, PubMed:23958951). Isoform NKp44L: Not detected on circulating cells from healthy individuals, but is expressed on a large panel of tumor and transformed cells (PubMed:23958951).

Background

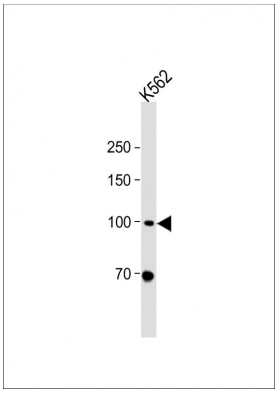
This gene is a member of the myeloid/lymphoid or mixed-lineage leukemia (MLL) family and encodes a protein with an N-terminal PHD zinc finger and a central SET domain. Overexpression of the protein inhibits cell cycle progression. Alternate transcriptional splice variants have been characterized. [provided by RefSeq].

References

Liu, J., et al. J. Biol. Chem. 285(27):20904-20914(2010)
Fujiki, R., et al. Nature 459(7245):455-459(2009)
Cheng, F., et al. Int. J. Biochem. Cell Biol. 40(11):2472-2481(2008)
Sun, X.J., et al. PLoS ONE 3 (1), E1499 (2008) :
Olsen, J.V., et al. Cell 127(3):635-648(2006)

Images

All lanes: Anti-MLL5 Antibody (N-term) at 1:2000 dilution + K562 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size: 100 KDa Blocking/Dilution buffer: 5% NFDM/TBST.



Citations

- MLL5 suppresses antiviral innate immune response by facilitating STUB1-mediated RIG-I degradation.
- Mixed lineage leukemia 5 (MLL5) protein regulates cell cycle progression and E2F1-responsive gene expression via association with host cell factor-1 (HCF-1).