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MLM Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP12880B

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	Q8N726
Other Accession	NP_478102.2
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB18645
Calculated MW	13903
Antigen Region	72-101

Additional Information

Gene ID	1029
Other Names	Cyclin-dependent kinase inhibitor 2A, isoform 4, p14ARF, p19ARF, CDKN2A {ECO:0000312|EMBL:AAM779191}, CDKN2, MLM
Target/Specificity	This MLM antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 72-101 amino acids from the C-terminal region of human MLM.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 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	MLM Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CDKN2A {ECO:0000312|EMBL:AAM77919.1, ECO:0000312|HGNC:HGNC:1787}
Function	Capable of inducing cell cycle arrest in G1 and G2 phases. Acts as a tumor

	suppressor. Binds to MDM2 and blocks its nucleocytoplasmic shuttling by sequestering it in the nucleolus. This inhibits the oncogenic action of MDM2 by blocking MDM2-induced degradation of p53 and enhancing p53-dependent transactivation and apoptosis. Also induces G2 arrest and apoptosis in a p53-independent manner by preventing the activation of cyclin B1/CDC2 complexes. Binds to BCL6 and down-regulates BCL6-induced transcriptional repression. Binds to E2F1 and MYC and blocks their transcriptional activator activity but has no effect on MYC transcriptional repression. Binds to TOP1/TOPOI and stimulates its activity. This complex binds to rRNA gene promoters and may play a role in rRNA transcription and/or maturation. Interacts with NPM1/B23 and promotes its polyubiquitination and degradation, thus inhibiting rRNA processing. Plays a role in inhibiting ribosome biogenesis, perhaps by binding to the nucleolar localization sequence of transcription termination factor TTF1, and thereby preventing nucleolar localization of TTF1 (By similarity). Interacts with COMMD1 and promotes its 'Lys63'-linked polyubiquitination. Interacts with UBE2I/UBC9 and enhances sumoylation of a number of its binding partners including MDM2 and E2F1. Binds to HUWE1 and represses its ubiquitin ligase activity. May play a role in controlling cell proliferation and apoptosis during mammary gland development.
Cellular Location	Nucleus, nucleolus. Nucleus, nucleoplasm

Background

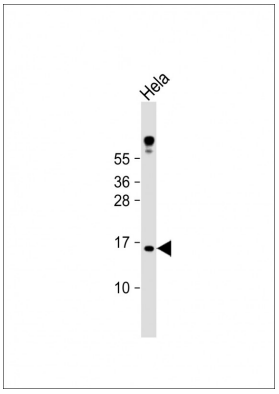
This gene generates several transcript variants which differ in their first exons. At least three alternatively spliced variants encoding distinct proteins have been reported, two of which encode structurally related isoforms known to function as inhibitors of CDK4 kinase. The remaining transcript includes an alternate first exon located 20 Kb upstream of the remainder of the gene; this transcript contains an alternate open reading frame (ARF) that specifies a protein which is structurally unrelated to the products of the other variants. This ARF product functions as a stabilizer of the tumor suppressor protein p53 as it can interact with, and sequester, MDM1, a protein responsible for the degradation of p53. In spite of the structural and functional differences, the CDK inhibitor isoforms and the ARF product encoded by this gene, through the regulatory roles of CDK4 and p53 in cell cycle G1 progression, share a common functionality in cell cycle G1 control. This gene is frequently mutated or deleted in a wide variety of tumors, and is known to be an important tumor suppressor gene.

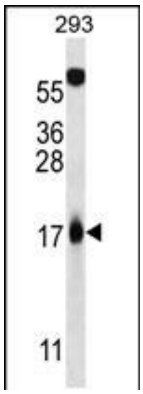
References

Kovacs, E., et al. Proc. Natl. Acad. Sci. U.S.A. 107(12):5429-5434(2010)
Irvine, M., et al. Cell Cycle 9(4):829-839(2010)
Zhang, H.J., et al. J. Cell. Biochem. 106(3):464-472(2009)
Ivanchuk, S.M., et al. Cell Cycle 7(12):1836-1850(2008)
Bandyopadhyay, K., et al. Biochemistry 46(49):14325-14334(2007)

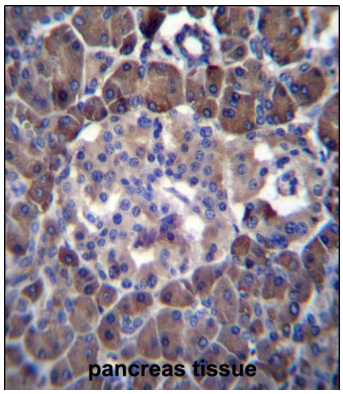
Images

Anti-MLM Antibody (C-term) at 1:1000 dilution + Hela 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 : 14 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

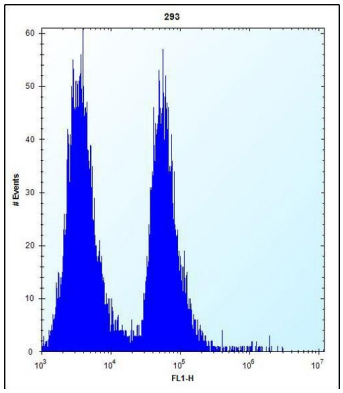




MLM Antibody (C-term) (Cat. #AP12880b) western blot analysis in 293 cell line lysates (35ug/lane).This demonstrates the MLM antibody detected the MLM protein (arrow).



MLM Antibody (C-term) (Cat. #AP12880b)immunohistochemistry analysis in formalin fixed and paraffin embedded human pancreas tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of MLM Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.



MLM Antibody (C-term) (Cat. #AP12880b) flow cytometric analysis of 293 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.