



p16 INK4A (PTR2301) Mouse mAb

Catalog No	YP-Ab-19073
Isotype	IgG
Reactivity	Human
Applications	IHC;WB;IF;ELISA
Gene Name	CDKN2A CDKN2 MTS1
Protein Name	Cyclin-dependent kinase inhibitor 2A isoforms 1/2/3
Immunogen	Synthesized peptide derived from human p16 INK AA range: 100-156
Specificity	This antibody detects endogenous levels of p16 INK protein.
Formulation	PBS, 50% glycerol, 0.05% Proclin 300, 0.05%BSA
Source	Monoclonal,Mouse,IgG
Purification	Protein G
Dilution	IHC 1:200-1000; WB 1:500-2000; IF 1:100-500; ELISA 1:1000-5000 Note:For IHC,wesuggest antigen retrieval with TE buffer pH 9.0
Concentration	1 mg/ml
Purity	≥90%
Storage Stability	-20°C/1 year
Synonyms	CDKN2A ; CDKN2 ; MTS1 ; Cyclin-dependent kinase inhibitor 2A, isoforms 1/2/3 ; Cyclin-dependent kinase 4 inhibitor A ; CDK4I ; Multiple tumor suppressor 1 ; MTS-1 ; p16-INK4a ; p16-INK4 ; p16INK4A ; p16 ;
Observed Band	16kD
Calculated Molecular Weight	16kD
Cell Pathway	Nuclear
Tissue Specificity	Widely expressed but not detected in brain or skeletal muscle. Isoform 3 is pancreas-specific.
Function	Alternative products:Isoform 1 and isoform 4 arise due to the use of two alternative first exons joined to a common exon 2 at the same acceptor site but in different reading frames, resulting in two completely different isoforms,Disease:Defects in CDKN2A are a cause of Li-Fraumeni syndrome (LFS) [MIM:151623]. LFS is a highly penetrant familial cancer phenotype usually associated with inherited mutations in TP53.,Disease:Defects in CDKN2A are involved in tumor formation in a wide range of tissues.,Disease:Defects in CDKN2A are the cause of cutaneous malignant melanoma 2 (CMM2) [MIM:155601]. Inheritance is autosomal dominant. Malignant melanoma is a malignant neoplasm of melanocytes, arising de novo or from a preexisting benign nevus, which occurs most often in the skin but also may involve other



sites.,Disease:Defects in CDKN2A are the cause of familial atypical multiple mole melanoma-pancreatic carcinoma syndrome (FAMMMPC) [MIM:606719].,Disease:Defects in CDKN2A are the cause of melanoma-astrocytoma syndrome [MIM:155755]. The melanoma-astrocytoma syndrome is characterized by a dual predisposition to melanoma and neural system tumors, commonly astrocytoma.,Function:Acts as a negative regulator of the proliferation of normal cells by interacting strongly with CDK4 and CDK6. This inhibits their ability to interact with cyclins D and to phosphorylate the retinoblastoma protein.,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. 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.,online information:Database of CDKN2A germline and somatic variants,online information:P16INK4a entry,polymorphism:Genetic variations in CDKN2A may underlie susceptibility to uveal melanoma [MIM:155720]. Uveal melanoma is the most common type of ocular malignant tumor, consisting of overgrowth of uveal melanocytes and often preceded by a uveal nevus.,similarity:Belongs to the CDKN2 cyclin-dependent kinase inhibitor family.,similarity:Contains 4 ANK repeats.,subunit:Does not interact with cyclins, CDC2, CDK2, CDK4, CDK5 or CDK6. Binds to BCL6, E2F1, HUWE1, MDM2, MYC, NPM1/B23, TOP1/TOPOI and UBE2I/UBC9. Interacts with TBRG1. Interacts with CDKN2AIP and E4F1.,subunit:Heterodimer with CDK4 or CDK6. Isoform 3 does not bind to CDK4.,tissue specificity:Widely expressed but not detected in brain or skeletal muscle. Isoform 3 is pancreas-specific.,

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, the E3 ubiquitin-protein ligase MDM2, 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. [provided by RefSeq, Sep 2012]

matters needing attention

Avoid repeated freezing and thawing!

Usage suggestions

This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.

Products Images



Whole cell lysates of Hela were separated by 12% SDS-PAGE, and the membrane was blotted with anti-p16(PTR2301) antibody. The HRP-conjugated Goat anti-Mouse IgG(H + L) antibody was used to detect the antibody. Lane 1: Hela

