

Rabbit PML Polyclonal Antibody | anti-PML antibody

PML Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA326097	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

PML; Polyclonal Antibody; PML Antibody; Acute promyelocytic leukemia; inducer of; MYL; Pml; PML_HUMAN; PP8675; Probable transcription factor PML; Promyelocytic leukemia; Promyelocytic leukemia inducer of; Promyelocytic leukemia protein; Protein PML; RING finger protein 71; RNF 71; RNF71; TRIM 19; Tripartite motif protein TRIM19; Tripartite motif-containing protein 19; anti-PML antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	PML antibody detects endogenous levels of total PML
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	633
Applicable Applications for anti-PML antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human PML
Subcellular Location	Nucleus > Nucleoplasm. Cytoplasm. Nucleus > PML Body. Nucleus > Nucleolus. Endoplasmic Reticulum Membrane. Early Endosome Membrane. Sumoylated forms localize to the PML nuclear bodies. The B1 box and the RING finger are also required for this nuclear localization. Isoforms lacking a nuclear localization signal are cytoplasmic. Detected in the nucleolus after DNA damage. Sequestered in the cytoplasm by interaction with rabies virus phosphoprotein.
Tissue Specificity	By interferons alpha, beta and gamma. Up-regulated by IRF3 and p53/TP53.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



IHC (Immunohistochemistry)

AAA326097 at 1/100 staining Human kidney tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



IF (Immunofluorescence)

AAA326097 staining A549 cells by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) antibody, diluted at 1/600, was used as secondary antibody.



WB (Western Blot)

Western blot analysis of HeLa lysate using PML antibody. The lane on the left is treated with the antigen-specific peptide.



IF (Immunofluorescence)

F6318 staining HEPG2 cells by ICC/IF. Cells were fixed with PFA and permeabilized in 0.1% saponin prior to blocking in 10% serum for 45 minutes at 37 degree C. The primary antibody was diluted 1/200 and incubated with the sample for 1 hour at 37 degree C. A Alexa Fluor 594 conjugated goat polyclonal to rabbit IgG (H+L), diluted 1/600 was used as secondary antibody.

Related Product Information for anti-PML antibody	Description: The protein encoded by this gene is a member of the tripartite motif (TRIM) family. The TRIM motif includes three zinc-binding domains, a RING, a B-box type 1 and a B-box type 2, and a coiled-coil region. This phosphoprotein localizes to nuclear bodies where it functions as a transcription factor and tumor suppressor. Its expression is cell-cycle related and it regulates the p53 response to oncogenic signals. The gene is often involved in the translocation with the retinoic acid receptor alpha gene associated with acute promyelocytic leukemia (APL). Extensive alternative splicing of this gene results in several variations of the protein's central and C-terminal regions; all variants encode the same N-terminus. Alternatively spliced transcript variants encoding different isoforms have been identified. [provided by RefSeq, Jul 2008] Function: Functions via its association with PML-nuclear bodies (PML-NBs) in a wide range of important cellular processes, including tumor suppression, transcriptional regulation, apoptosis, senescence, DNA damage response, and viral defense mechanisms. Acts as the scaffold of PML-NBs allowing other proteins to shuttle in and out, a process which is regulated by SUMO-mediated modifications and interactions. Isoform PML-4 has a multifaceted role in the regulation of apoptosis and growth suppression: activates RB1 and inhibits AKT1 via interactions with PP1 and PP2A phosphatases respectively, negatively affects the PI3K pathway by inhibiting MTOR and activating PTEN, and positively regulates p53/TP53 by acting at different levels (by promoting its acetylation and phosphorylation and by inhibiting its MDM2-dependent degradation). Isoform PML-4 also: acts as a transcriptional repressor of TBX2 during cellular senescence and the repression is dependent on a functional RBL2/E2F4 repressor complex, regulates double-strand break repair in gamma-irradiation-induced DNA damage responses via its interaction with WRN, acts as a negative regulator of telomerase by interacting with TERT, and regulates PER2 nuclear localization and circadian function. Isoform PML-6 inhibits specifically the activity of the tetrameric form of PKM. The nuclear isoforms (isoform PML-1, isoform PML-2, isoform PML-3, isoform PML-4 and isoform PML-5) in concert with SATB1 are involved in local chromatin-loop remodeling and gene expression regulation at the MHC-I locus. Isoform PML-2 is required for efficient IFN-gamma induced MHC II gene transcription via regulation of CIITA. Cytoplasmic PML is involved in the regulation of the TGF-beta signaling pathway. PML also regulates transcription activity of ELF4 and can act as an important mediator for TNF-alpha-and IFN-alpha-mediated inhibition of endothelial cell network formation and migration. Subunit Structure: Key component of PML bodies. PML bodies are formed by the interaction of PML homodimers (via SUMO-binding motif) with sumoylated PML, leading to the assembly of higher oligomers. Several types of PML bodies have been observed. PML bodies can form hollow spheres that can sequester target proteins inside. Interacts (via SUMO-binding motif) with sumoylated proteins. Interacts (via C-terminus) with p53/TP53. Recruits p53/TP53 and CHEK2 into PML bodies, which promotes p53/TP53 phosphorylation at 'Ser-20' and prevents its proteasomal degradation. Interacts with MDM2, and sequesters MDM2 in the nucleolus, thereby preventing ubiquitination of p53/TP53. Interaction with PML-RARA oncoprotein and certain viral proteins causes disassembly of PML bodies and abolishes the normal PML function. Interacts with HIPK2, TERT, SIRT1, TOPBP1, TRIM27 and TRIM69. Interacts with ELF4 (via C-terminus). Interacts with Lassa virus Z protein and rabies virus phosphoprotein. Interacts with ITPR3. Interacts (in the cytoplasm) with TGFBR1, TGFBR2 and PKM. Interacts (via the coiled-coil domain and when sumoylated) with SATB1. Interacts with UBE2I; the interaction is enhanced by arsenic binding. Interacts (PML-RARA oncoprotein, via the coiled-coil domain) with UBE2I; the interaction is enhanced by arsenic binding and is required for PML-RARA oncoprotein sumoylation and inhibition of RARA transcriptional activity. Interacts with RB1, PPP1A, SMAD2, SMAD3, DAXX, RPL11 and MTOR. Interacts with PPARGC1A and KAT2A. Interacts with CSNK2A1 and CSNK2A3. Interacts with ANKRD2; the interaction is direct. Interacts (via SUMO-interacting motif) with sumoylated MORC3 (PubMed:20501696). Isoform PML-1, isoform PML-2, isoform PML-3, isoform PML-4, isoform PML-5 and isoform PML-6 interact with RNF4. Isoform PML-1 interacts with NLRP3. Isoform PML-1, isoform PML-2, isoform PML-3, isoform PML-4 and isoform PML-5 interact with MAGEA2, RBL2, PER2 and E2F4. Isoform PML-2 interacts with CIITA. Isoform PML-2, isoform PML-3 and isoform PML-4 interact with TBX2. Isoform PML-4 interacts with RANBP2, HDAC7, KAT6A, WRN, PIN1, TBX3 and phosphorylated MAPK1/ERK2. Isoform PML-4 interacts with the CTNNB1 and TCF7L2/TCF4 complex. Isoform PML-4 preferentially interacts with MAPK7/BMK1 although other isoforms (isoform PML-1, isoform PML-2, isoform PML-3 and isoform PML-6) also interact with it. Isoform PML-12 interacts with PIAS1, PIAS2 (isoform PIAS2-alpha) and CSNK2A1/CK2. Isoform PML-3 interacts with HFV bel1/tas and bet. Isoform PML-4 interacts with VZV capsid protein VP26/ORF23 capsid protein. The sumoylated isoform PML-4 interacts with encephalomyocarditis virus (EMCV) RNA-directed RNA polymerase 3D-POL (P3D-POL). Isoform PML-1 interacts with herpes simplex virus-1 (HHV-1) ICPO. Isoform PML-2 interacts with human adenovirus 2 E1A and this interaction stimulates E1A-dependent transcriptional activation (PubMed:23135708). Isoform PML-6 interacts with moloney murine leukemia virus (MoMLV) integrase (IN) and reverse transcriptase (RT). Isoform PML-4 and isoform PML-5 interact with human adenovirus 5 E1B-55K protein; these interactions promote efficient subnuclear targeting of E1B-55K to PML nuclear bodies (PubMed:20639899, PubMed:25772236). Post-translational Modifications: Ubiquitinated; mediated by RNF4, RNF111, UHRF1, UBE3A/E6AP, BCR(KLHL20) E3 ubiquitin ligase complex E3 ligase complex, SIAH1 or SIAH2 and leading to subsequent proteasomal degradation (PubMed:18408734, PubMed:21840486, PubMed:22033920). Ubiquitination by BCR(KLHL20) E3 ubiquitin ligase complex E3 ligase complex requires CDK1/2-mediated phosphorylation at Ser-518 which in turn is recognized by prolyl-isopeptidase PIN1 and PIN1-catalyzed isomerization further potentiates PML interaction with KLHL20 (PubMed:21840486, PubMed:22033920). 'Lys-6-', 'Lys-11-', 'Lys-48'-and 'Lys-63'-linked polyubiquitination by RNF4 is polysumoylation-dependent (PubMed:18408734). Ubiquitination by RNF111 is polysumoylation-dependent (By similarity). Sumoylation regulates PML's: stability in response to extracellular or intracellular stimuli, transcription directly and indirectly, through sequestration of or dissociation of the transcription factors from PML-NBs, ability to regulate apoptosis and its anti-viral activities. It is also essential for: maintaining proper PML nuclear
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References	Wu D, Shao K, Zhou Q, Sun J, Wang Z, Yan F, Liu T, Wu X, Ye B, Huang H, Zhou Y; Journal: Cell Physiol Biochem. Autophagy and Ubiquitin-Mediated Proteolytic Degradation of PML/Rar Fusion Protein in Matrine-Induced Differentiation Sensitivity Recovery of ATRA-Resistant APL (NB4-LR1) Cells: in Vitro and in Vivo Studies.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	4505903
NCBI GeneID	5371
NCBI Accession #	NP_002666.1
NCBI GenBank Nucleotide #	NM_002675.3
UniProt Accession #	P29590; P29591; P29592; P29593; Q00755; Q15959; Q59FP9; Q8WUA0; Q96S41; Q9BPW2; Q9BWP7; E9PBR7
Molecular Weight	Observed: 98 kDa Predicted: 98 kDa
NCBI Official Full Name	protein PML isoform 6
NCBI Official Synonym Full Names	promyelocytic leukemia
NCBI Official Symbol	PML
NCBI Official Synonym Symbols	MYL; RNF71; PP8675; TRIM19
NCBI Protein Information	protein PML
UniProt Protein Name	Protein PML
UniProt Gene Name	PML
UniProt Synonym Gene Names	MYL; PP8675; RNF71; TRIM19

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