

PML Sumoylation Site Antibody
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2504b

Specification

PML Sumoylation Site Antibody - Product Information

Application	WB, IHC-P, IF, FC,E
Primary Accession	P29590
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	97551
Antigen Region	470-499

PML Sumoylation Site Antibody - Additional Information

Gene ID 5371

Other Names

Protein PML, Promyelocytic leukemia protein, RING finger protein 71, Tripartite motif-containing protein 19, PML, MYL, PP8675, RNF71, TRIM19

Target/Specificity

This PML Sumoylation Site antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 470-499 amino acids from human PML Sumoylation Site.

Dilution

WB~~1:1000
IHC-P~~1:50~100
IF~~1:10~50
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

PML Sumoylation Site Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

PML Sumoylation Site Antibody - Protein Information

Name PML**Synonyms** MYL, PP8675, RNF71, TRIM19

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. Inhibits EIF4E-mediated mRNA nuclear export by reducing EIF4E affinity for the 5' 7-methylguanosine (m7G) cap of target mRNAs (PubMed:11500381, PubMed:11575918, PubMed:18391071). 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.

Cellular Location

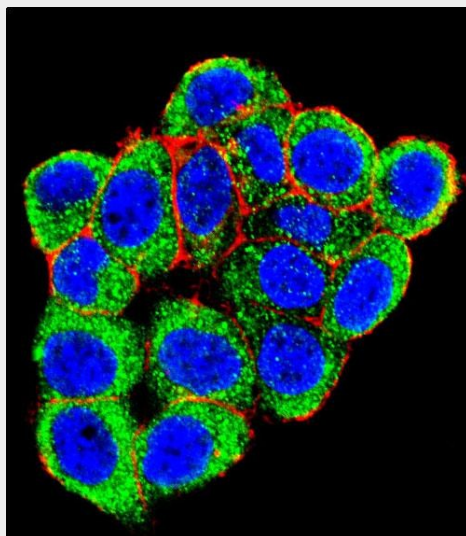
Nucleus. Nucleus, nucleoplasm. Cytoplasm. Nucleus, PML body. Nucleus, nucleolus. Endoplasmic reticulum membrane; Peripheral membrane protein; Cytoplasmic side. Early endosome membrane; Peripheral membrane protein; Cytoplasmic side Note=Isoform PML-1 can shuttle between the nucleus and cytoplasm Isoform PML-2, isoform PML-3, isoform PML-4, isoform PML-5 and isoform PML-6 are nuclear isoforms whereas isoform PML-7 and isoform PML-14 lacking the nuclear localization signal are cytoplasmic isoforms Detected in the nucleolus after DNA damage. Acetylation at Lys-487 is essential for its nuclear localization. Within the nucleus, most of PML is expressed in the diffuse nuclear fraction of the nucleoplasm and only a small fraction is found in the matrix-associated nuclear bodies (PML-NBs). The transfer of PML from the nucleoplasm to PML-NBs depends on its phosphorylation and sumoylation. The B1 box and the RING finger are also required for the localization in PML-NBs. Also found in specific membrane structures termed mitochondria-associated membranes (MAMs) which connect the endoplasmic reticulum (ER) and the mitochondria. Sequestered in the cytoplasm by interaction with rabies virus phosphoprotein

PML Sumoylation Site Antibody - Protocols

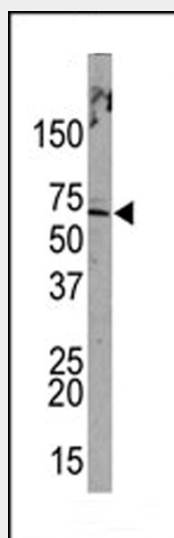
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

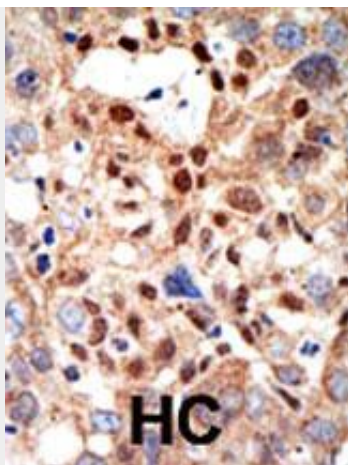
PML Sumoylation Site Antibody - Images



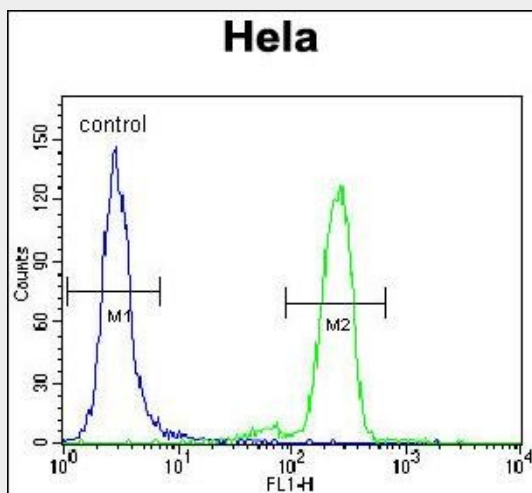
Confocal immunofluorescent analysis of PML Sumoylation Site Antibody (Cat#AP2504b) with HeLa cell followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green). Actin filaments have been labeled with Alexa Fluor 555 phalloidin (red). DAPI was used to stain the cell nuclear (blue).



Western blot analysis of anti-PML Sumoylation Site Antibody (Cat. AP2504b) in HeLa cell line lysates (35ug/lane). PML (arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.



PML Sumoylation Site Antibody (Cat. #AP2504b) flow cytometric analysis of Hela cells (right histogram) compared to a negative control cell (left histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

PML Sumoylation Site Antibody - Background

PML 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).

PML Sumoylation Site Antibody - References

- Puccetti, E., et al., *Oncogene* 22(44):6900-6908 (2003).
- Favre, M., et al., *J. Acquir. Immune Defic. Syndr.* 34(2):127-133 (2003).
- Kawai, T., et al., *Mol. Cell. Biol.* 23(17):6174-6186 (2003).
- Louria-Hayon, I., et al., *J. Biol. Chem.* 278(35):33134-33141 (2003).
- Moller, A., et al., *Cancer Res.* 63(15):4310-4314 (2003).