abcam

Product datasheet

Anti-PML Protein antibody [C7] ab96055

2 Images

Overview

Product name	Anti-PML Protein antibody [C7]
Description	Mouse monoclonal [C7] to PML Protein
Host species	Mouse
Specificity	This antibody recognises all PML isoforms.
Tested applications	**Suitable for:** WB, ICC/IF, IHC-P, IHC-Fr
Species reactivity	**Reacts with:** Human
Immunogen	Fusion protein: Maltose binding fusion against PML III.
Positive control	IFNa-treated cells.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid repeated freeze / thaw cycles.
Storage buffer	Preservative: 0.1% Sodium Azide
Purity	Ascites
Clonality	Monoclonal
Clone number	C7
Isotype	IgG1
Light chain type	kappa

Applications

Our Abpromise guarantee covers the use of **ab96055** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use at an assay dependent concentration. Predicted molecular weight: 98 kDa.
ICC/IF		Use at an assay dependent concentration.

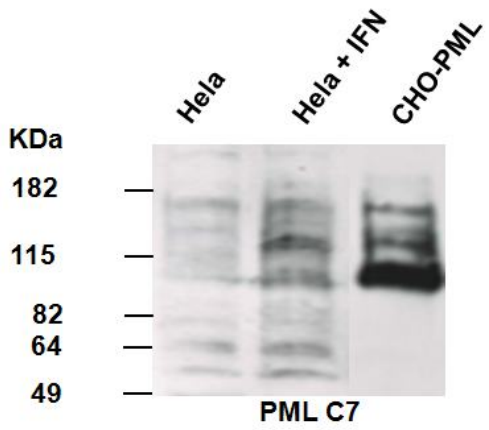
Application	Abreviews	Notes
IHC-P		Use at an assay dependent concentration. 1h incubation at 4 degrees or 37 degrees.
IHC-Fr		Use at an assay dependent concentration. 1h incubation at 4 degrees or 37 degrees.

Target

Function	Key component of PML nuclear bodies that regulate a large number of cellular processes by facilitating post-translational modification of target proteins, promoting protein-protein contacts, or by sequestering proteins. Functions as tumor suppressor. Required for normal, caspase-dependent apoptosis in response to DNA damage, FAS, TNF, or interferons. Plays a role in transcription regulation, DNA damage response, DNA repair and chromatin organization. Plays a role in processes regulated by retinoic acid, regulation of cell division, terminal differentiation of myeloid precursor cells and differentiation of neural progenitor cells. Required for normal immunity to microbial infections. Plays a role in antiviral response. In the cytoplasm, plays a role in TGFB1-dependent processes. Regulates p53/TP53 levels by inhibiting its ubiquitination and proteasomal degradation. Regulates activation of p53/TP53 via phosphorylation at 'Ser-20'. Sequesters MDM2 in the nucleolus after DNA damage, and thereby inhibits ubiquitination and degradation of p53/TP53. Regulates translation of HIF1A by sequestering MTOR, and thereby plays a role in neoangiogenesis and tumor vascularization. Regulates RB1 phosphorylation and activity. Required for normal development of the brain cortex during embryogenesis. Can sequester herpes virus and varicella virus proteins inside PML bodies, and thereby inhibit the formation of infectious viral particles. Regulates phosphorylation of ITPR3 and plays a role in the regulation of calcium homeostasis at the endoplasmic reticulum (By similarity). Regulates transcription activity of ELF4. Inhibits specifically the activity of the tetrameric form of PKM2. Together with SATB1, involved in local chromatin-loop remodeling and gene expression regulation at the MHC-I locus. Regulates PTEN compartmentalization through the inhibition of USP7-mediated deubiquitinylation.
Involvement in disease	Note=A chromosomal aberration involving PML may be a cause of acute promyelocytic leukemia (APL). Translocation t(15;17)(q21;q21) with RARA. The PML breakpoints (type A and type B) lie on either side of an alternatively spliced exon.
Sequence similarities	Contains 2 B box-type zinc fingers. Contains 1 RING-type zinc finger.
Domain	Interacts with PKM2 via its coiled-coil domain. Binds arsenic via the RING-type zinc finger.
Post-translational modifications	Ubiquitinated; mediated by RNF4, SIAH1 or SIAH2 and leading to subsequent proteasomal degradation. 'Lys-6'-, 'Lys-11'-, 'Lys-48'- and 'Lys-63'-linked polyubiquitination by RNF4 is polysumoylation-dependent. Undergoes 'Lys-11'-linked sumoylation. Sumoylation on all three sites is required for nuclear body formation. Sumoylation on Lys-160 is a prerequisite for sumoylation on Lys-65. The PML-RARA fusion protein requires the coiled-coil domain for sumoylation. Desumoylated by SENP2 and SENP6. Arsenic induces PML and PML-RARA oncogenic fusion proteins polysumoylation and their subsequent RNF4-dependent ubiquitination and proteasomal degradation, and is used as treatment in acute promyelocytic leukemia (APL). Phosphorylated in response to DNA damage, probably by ATR. Acetylation may promote sumoylation and enhance induction of apoptosis.
Cellular localization	Nucleus > nucleoplasm. Cytoplasm. Nucleus > PML body. Nucleus > nucleolus. Endoplasmic

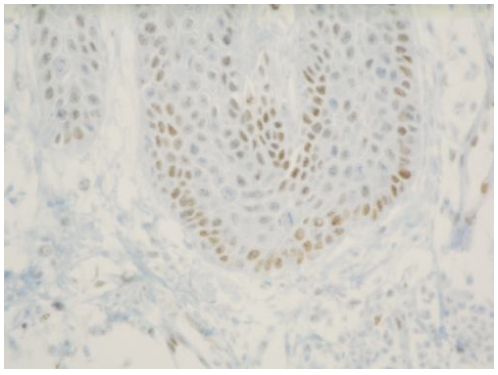
reticulum membrane. Early endosome membrane. Sumoylated forms localize to the PML nuclear bodies. The B1 box and the RING finger are also required for this nuclear localization. Isoforms lacking a nuclear localization signal are cytoplasmic. Detected in the nucleolus after DNA damage. Sequestered in the cytoplasm by interaction with rabies virus phosphoprotein.

Images



Western blot - PML Protein antibody [C7] (ab96055)

Western blot analysis of HeLa cells treated or not with IFNa, as well as stable PML-III transfectants. Multiple PML isoforms are detected by the antibody and induced by IFNa.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - PML Protein antibody [C7] (ab96055)

Ab96055 staining human PML protein in human psoriasic skin by immunohsitochemistry on formalin fixed, paraffin embedded tissue. This image demonstrates strong labelling of PML nuclear bodies in the epithelia.

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