

# Recombinant Mouse PML Protein

**For Research Use Only**

## 1. Basic Product Information

Catalog No.: REP51630

Size: 10ug, 100ug

Protein Name: Protein PML

Synonym: Pml

UniProt ID: Q60953

UniProt Link: [www.uniprot.org/uniprotkb/Q60953/entry](http://www.uniprot.org/uniprotkb/Q60953/entry)

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 885 AA

Molecular Weight: 98 KD

Protein Tag: C-terminal His6

## 2. Amino Acid Sequence

METEPVSVQKVPAPPGSPCRQQDSALTPTPTMPPPEEPSSEYEHSSQSPAEEQAIQEEFQFLRCPSC  
QAQAKCPKLLPCLHTLCSGCLEAPGLQCPICKAPGQADANGEALDNVFFESLQRRRLAVFRQIVDAQA  
ACTRCKGLADFWCFECEQLICSKCFEAHQWYLYKHEARPLADLRDNSVSSFLDSTRKSNIFCSNTNH  
RNPALTDIYCRGCAKPLCCTCALLDRNHSHLHCDIGEEIQQWHEELGTMTQTLEEQGRTFDSAHAQ  
MCSAIGQLDHARADIEKQIRARVRQVVDYVQAQERELLEAVNDYQRDYQEIAGQLSCLEAVLQIRIR  
TSGALVKRMKLYASDQEVLDLMSFLRKALCSLRQEEPQNQKVQLLTRGFEEFKLCLQDFISCITQRIN  
AAVASPEAASNQPEAASTHPVTTSTPEDLEQPKVQSVQAQALELSKTQPVAMVKTVPGAHPVPVY  
AFSMQGPTYREEASQTVGSMKRKCSHEDCSRKIIKMESTEENEDRLATSSPEQSWPSTFKATSPPH  
LDGTSNPESTVPEKKILLPNNNHVTSDTGETEERVVVISSSESDTENLSSHELDSSSESSSLQLEG  
PNSLKALDESLEPHLEDRTLVEFDLKIDNETQKISQLAAVNRESKFRVLIQPEAFSVYSKAVSLEAGL  
RHFLSFLTMMHRPILACSLRWGPGLPIFFQTLSDINKLWEFQDTISGFLAVLPLIRERIPGASSFKLGNL  
AKTYLARNMSERSALASVLAMRDLCCLEISPLPLAQHIYSFSSLQCFASLQPLIQASVLPQSEARLL  
ALHNVSFVELLNAYRTNRQEGLKKYVHYLSLQTTPLSSSASTQVAQFLQALSTHMEGLLEGHAPAGA  
EGKAESKGCLA

## 3. Buffer Composition



Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

## 4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

## 5. Product Description

This product is recombinant Protein PML produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

**Protein 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 (By similarity). Positively regulates p53/TP53 by acting at different levels (by promoting its acetylation and phosphorylation and by inhibiting its MDM2-dependent degradation). Regulates phosphorylation of ITPR3 and plays a role in the regulation of calcium homeostasis at the endoplasmic reticulum. Regulates RB1 phosphorylation and activity. Acts as both a negative regulator of PPARGC1A acetylation and a potent activator of PPAR signaling and fatty acid oxidation. Regulates translation of HIF1A by sequestering MTOR, and thereby plays a role in neoangiogenesis and tumor vascularization. Regulates PER2 nuclear localization and circadian function. Cytoplasmic PML is involved in the regulation of the TGF-beta signaling pathway. Required for normal development of the brain cortex during embryogenesis. Plays a role in granulopoiesis or monopoiesis of myeloid progenitor cells. May play a role regulating stem and progenitor cell fate in tissues as diverse as blood, brain and breast. Shows antiviral activity towards lymphocytic choriomeningitis virus (LCMV) and the vesicular stomatitis virus (VSV).

**Subcellular Localization:** 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=Detected in the nucleolus after DNA damage. Acetylation at Lys-497 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 (By similarity).

## 6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.