

# PPM1D Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)  
Catalog # AP8437B

## Product Information

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<b>Application</b>	WB
<b>Primary Accession</b>	<a href="#">O15297</a>
<b>Reactivity</b>	Human
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	Rabbit IgG
<b>Calculated MW</b>	66675
<b>Antigen Region</b>	571-602

## Additional Information

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<b>Gene ID</b>	8493
<b>Other Names</b>	Protein phosphatase 1D, Protein phosphatase 2C isoform delta, PP2C-delta, Protein phosphatase magnesium-dependent 1 delta, p53-induced protein phosphatase 1, PPM1D, WIP1
<b>Target/Specificity</b>	This PPM1D antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 571-602 amino acids from the C-terminal region of human PPM1D.
<b>Dilution</b>	WB~~1:1000
<b>Format</b>	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
<b>Storage</b>	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.
<b>Precautions</b>	PPM1D Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	PPM1D
<b>Synonyms</b>	WIP1
<b>Function</b>	Involved in the negative regulation of p53 expression (PubMed: <a href="#">23242139</a> ). Required for the relief of p53-dependent checkpoint mediated cell cycle

arrest. Binds to and dephosphorylates 'Ser-15' of TP53 and 'Ser-345' of CHEK1 which contributes to the functional inactivation of these proteins (PubMed:[15870257](#), PubMed:[16311512](#)). Mediates MAPK14 dephosphorylation and inactivation (PubMed:[21283629](#)). Is also an important regulator of global heterochromatin silencing and critical in maintaining genome integrity (By similarity).

**Cellular Location**

Nucleus. Cytoplasm, cytosol

**Tissue Location**

Expressed in fetal and adult brain. Also detected in fetal liver and skeletal muscle, but not in their adult counterparts.

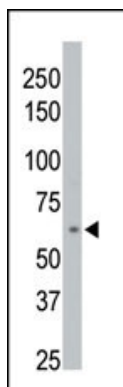
## Background

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PPM1D is a member of the PP2C family of Ser/Thr protein phosphatases. PP2C family members are known to be negative regulators of cell stress response pathways. Expression of this PPM1D gene is induced in a p53-dependent manner in response to various environmental stresses. While being induced by tumor suppressor protein TP53/p53, this phosphatase negatively regulates the activity of p38 MAP kinase, MAPK/p38, through which it reduces the phosphorylation of p53, and in turn suppresses p53-mediated transcription and apoptosis. This phosphatase thus mediates a feedback regulation of p38-p53 signaling that contributes to growth inhibition and the suppression of stress induced apoptosis. The PPM1D gene is located in a chromosomal region known to be amplified in breast cancer. The amplification of this gene has been detected in both breast cancer cell line and primary breast tumors, which suggests a role of this gene in cancer development.

## Images

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The anti-PPM1D Pab (Cat. #AP8437b) is used in Western blot to detect PPM1D in 293 cell lysate.

## Citations

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- [p53-Independent expression of wild-type p53-induced phosphatase 1 \(Wip1\) in methylmethane sulfonate-treated cancer cell lines and human tumors.](#)
- [BRCA1-IRIS overexpression abrogates UV-induced p38MAPK/p53 and promotes proliferation of damaged cells.](#)
- [Oncogenic Wip1 phosphatase is inhibited by miR-16 in the DNA damage signaling pathway.](#)
- [The oncogenic phosphatase WIP1 negatively regulates nucleotide excision repair.](#)
- [Wild-type p53-induced phosphatase 1 dephosphorylates histone variant gamma-H2AX and suppresses DNA double strand break repair.](#)
- [Expression of a homeostatic regulator, Wip1 \(wild-type p53-induced phosphatase\), is temporally induced by c-Jun and p53 in response to UV irradiation.](#)
- [Phosphorylation and degradation of MdmX is inhibited by Wip1 phosphatase in the DNA damage response.](#)
- [The estrogen receptor alpha pathway induces oncogenic Wip1 phosphatase gene expression.](#)