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PPM1D Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8437B

Specification

PPM1D Antibody (C-term) - Product Information

Application	**WB,E**
Primary Accession	O15297
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**571-602**

PPM1D Antibody (C-term) - Additional Information

Gene ID 8493

Other Names
Protein phosphatase 1D, Protein phosphatase 2C isoform delta, PP2C-delta, Protein phosphatase magnesium-dependent 1 delta, p53-induced protein phosphatase 1, PPM1D, WIP1

Target/Specificity
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.

Dilution
WB~~1:1000
E~~Use at an assay dependent concentration.

Format
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.

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
PPM1D Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

PPM1D Antibody (C-term) - Protein Information

Name PPM1D

Synonyms WIP1

Function Involved in the negative regulation of p53 expression (PubMed:23242139). 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

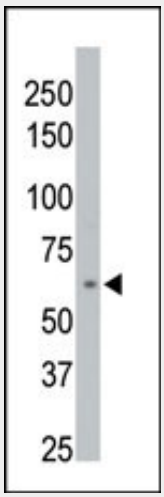
Tissue Location
Expressed in fetal and adult brain. Also detected in fetal liver and skeletal muscle, but not in their adult counterparts.

PPM1D Antibody (C-term) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PPM1D Antibody (C-term) - Images



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

PPM1D Antibody (C-term) - Background

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.

PPM1D Antibody (C-term) - Citations

- 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.