abcam

ab186423

Anti-PPM1G antibody [EPR13362-31]

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR13362-31
Purification technique	Affinity purification Protein A
Concentration	1.109 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/1000 - 1/50000
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human

Dilution info	1/200
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/250 - 1/500
Notes	-

Species	Human
Dilution info	1/250 - 1/500
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information PPM1G

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	PPM1G also known as protein phosphatase 1G is a member of the protein phosphatase 2C (PP2C) family. This enzyme has a molecular mass of approximately 58 kDa. It localizes mainly in the nucleus and is expressed in various tissues including the brain testis and skeletal muscle. PPM1G functions as a serine/threonine phosphatase removing phosphate groups from target proteins and playing a role in the regulation of cellular stress responses and cell cycle progression.

Biological function summary	PPM1G contributes to several cellular functions by interacting with different substrates. As a component of the cellular machinery it is involved in processes such as RNA processing and regulation of mitosis. The enzyme participates in dephosphorylation events critical for the assembly and disassembly of the spliceosome complex which is important for accurate mRNA splicing. PPM1G's activity helps maintain the proper function of these cellular processes ensuring the stability and output of gene expression.
Pathways	Several significant cellular activities are influenced by PPM1G's regulatory mechanisms. It is implicated in the mitogen-activated protein kinase (MAPK) signaling pathway and the cell cycle regulation pathway. These pathways are vital for controlling cell growth and division. In these contexts PPM1G interacts with various other proteins such as p53 and cyclin-dependent kinases (CDKs) linking it to cell cycle checkpoints and stress responses. These interactions allow PPM1G to regulate and coordinate cellular responses to external and internal signals.
Associated diseases and disorders	PPM1G has connections with illnesses like cancer and neurodegenerative diseases. In cancer its role in cell cycle regulation can affect tumor growth and progression often depending on its interactions with proteins like CDK. In neurodegenerative disorders PPM1G might play a part due to its involvement in RNA processing and protein dephosphorylation processes which are critical for neuron function. Any dysregulation in these interactions may contribute to disease pathology making PPM1G a point of interest for understanding and potentially treating these conditions.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

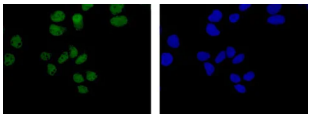
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:

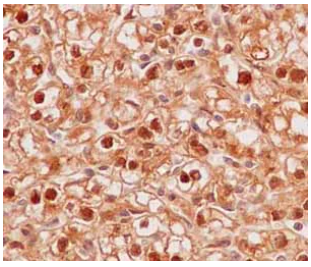
7 product images



Immunocytochemistry/ Immunofluorescence - Anti-PPM1G antibody [EPR13362-31] (ab186423)

PPM1G Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PPM1G antibody

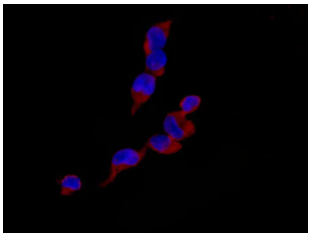
Immunofluorescent analysis of 4% paraformaldehyde-fixed HeLa cells labeling PPM1G with ab186423 at 1/500 dilution followed by Goat anti rabbit IgG (Alexa Fluor® 488) secondary antibody at 1/200 dilution (Green). Counter stained with Dapi (Blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PPM1G antibody [EPR13362-31] (ab186423)

PPM1G Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PPM1G antibody

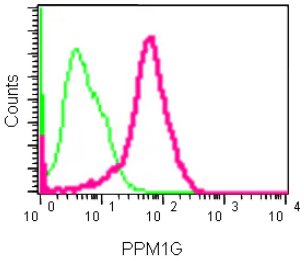
Immunohistochemical analysis of paraffin-embedded Human kidney clear cell carcinoma tissue labeling PPM1G with ab186423 at 1/500 dilution followed by prediluted HRP Polymer for Rabbit IgG. Counter stained with Hematoxylin.
Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-PPM1G antibody [EPR13362-31] (ab186423)

PPM1G Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PPM1G antibody

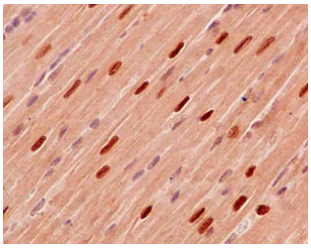
Immunofluorescent analysis of 4% paraformaldehyde-fixed 293T cells labeling PPM1G with ab186423 at 1/100 dilution followed by Goat anti rabbit IgG (Alexa Fluor® 555) secondary antibody at 1/200 dilution. Counter stained with Dapi.



Flow Cytometry (Intracellular) - Anti-PPM1G antibody [EPR13362-31] (ab186423)

PPM1G Flow Cytometry (Intracellular) staining using rabbit Anti-PPM1G antibody

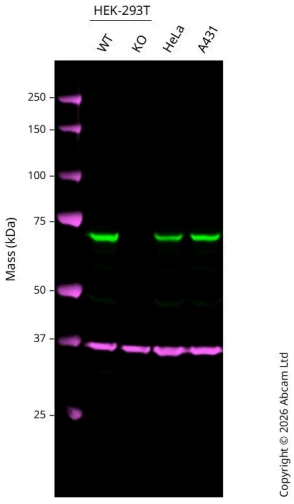
Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed 293 cells labeling PPM1G with ab186423 at 1/200 dilution (red) compared to a Rabbit monoclonal IgG isotype control (green), followed by Goat anti rabbit IgG (FITC) secondary antibody at 1/150 dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PPM1G antibody [EPR13362-31] (ab186423)

PPM1G Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PPM1G antibody

Immunohistochemical analysis of paraffin-embedded Mouse cardiac muscle tissue labeling PPM1G with ab186423 at 1/500 dilution followed by prediluted HRP Polymer for Rabbit IgG. Counter stained with Hematoxylin.
Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



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Western blot - Anti-PPM1G antibody [EPR13362-31] (ab186423)

PPM1G Western blot staining using rabbit Anti-PPM1G antibody

Western blot: Anti-PPM1G antibody [EPR13362-31] ab186423 staining at 1/50000 dilution, shown in green; Mouse anti GAPDH ab8245 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 70 kDa in Wild-type HEK-293T cell line with no signal observed at this size in PPM1G knockout HEK-293T cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 5% Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-PPM1G antibody [EPR13362-31] (ab186423) at 1/50000 dilution

Lane 1:
Wild-type HEK-293T cell lysate at 20 µg

Lane 2:
Western blot - Human PPM1G knockout HEK-293T cell line (ab266162) at 20 µg

Lane 3:
HeLa cell lysate at 20 µg

Lane 4:
A431 cell lysate at 20 µg

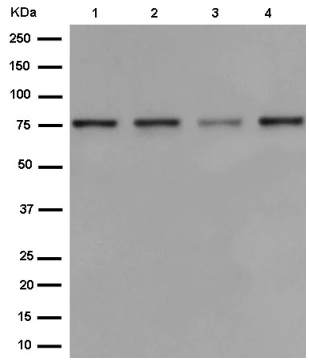
Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 59 kDa, 75 kDa

Observed band size: 70 kDa



Western blot - Anti-PPM1G antibody [EPR13362-31] (ab186423)

All lanes:
Western blot - Anti-PPM1G antibody [EPR13362-31] (ab186423) at 1/10000 dilution

Lane 1:
293T cell lysate at 20 µg

Lane 2:
Jurkat cell lysate at 20 µg

Lane 3:
HeLa cell lysate at 20 µg

Lane 4:
MCF7 cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugate at 1/1000 dilution

Predicted band size: 59 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.