

# Anti-PPM1A Antibody

## ER1706-37



<b>Product Type:</b>	Rabbit polyclonal IgG, primary antibodies
<b>Species reactivity:</b>	Human, Mouse, Rat
<b>Applications:</b>	WB, IF-Cell, IHC-P
<b>Molecular Wt:</b>	Predicted band size: 42 kDa

**Description:** The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the serine/ threonine protein phosphatases. Protein phosphatase 2Ca (PP2Ca) has broad specificity. It dephosphorylates and negatively regulates the activities of MAP kinases and MAP kinase-kinases while also inhibiting the activation of p38 and JNK kinase cascades, induced by environmental stresses. PP2Ca also induces the expression of endogenous p53 and the p53-responsive gene p21, leading to cell cycle arrest and apoptosis. The PP2Ca protein, which contains an active site containing a dinuclear metal ion center, shows highest expression in epithelial cells, as well as in the digestive tract, lung, kidney, breast, prostate, endocrine glands and brain.

**Immunogen:** Recombinant protein within Human PP2C alpha aa 42-330 / 382.

**Positive control:** HeLa cell lysate, Mouse brain tissue lysate, Rat brain tissue lysate, HeLa, human heart tissue, mouse heart tissue, rat heart tissue.

**Subcellular location:** Nucleus, Cytoplasm, cytosol, Membrane.

**Database links:** SwissProt: P35813 Human | P49443 Mouse | P20650 Rat

**Recommended Dilutions:**

<b>WB</b>	1:5,000
<b>IF-Cell</b>	1:100
<b>IHC-P</b>	1:200

**Storage Buffer:** 1\*PBS (pH7.4), 0.2% BSA, 50% Glycerol. Preservative: 0.05% Sodium Azide.

**Storage Instruction:** Shipped at 4°C. Store at +4°C short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20°C long term.

**Purity:** Protein A affinity purified.

Hangzhou Huaan Biotechnology Co., Ltd.

Orders:0086-571-88062880

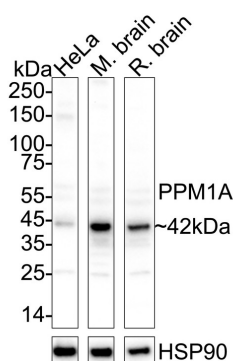
Technical:0086-571-89986345

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## Images

**Fig1:** Western blot analysis of PPM1A on different lysates with Rabbit anti-PPM1A antibody (ER1706-37) at 1/5,000 dilution.



Lane 1: HeLa cell lysate (20 µg/Lane)

Lane 2: Mouse brain tissue lysate (40 µg/Lane)

Lane 3: Rat brain tissue lysate (40 µg/Lane)

Predicted band size: 42 kDa

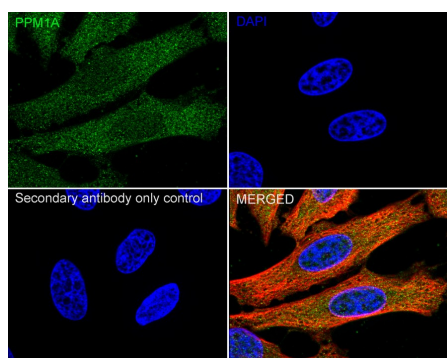
Observed band size: 42 kDa

Exposure time: 23 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (ER1706-37) at 1/5,000 dilution was used in primary antibody dilution (K1803) at 4 °C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

**Fig2:** Immunocytochemistry analysis of HeLa cells labeling PPM1A with Rabbit anti-PPM1A antibody (ER1706-37) at 1/100 dilution.



Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-PPM1A antibody (ER1706-37) at 1/100 dilution in 1% BSA in PBST overnight at 4 °C. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (HA601187, red) was stained at 1/100 dilution overnight at +4 °C. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

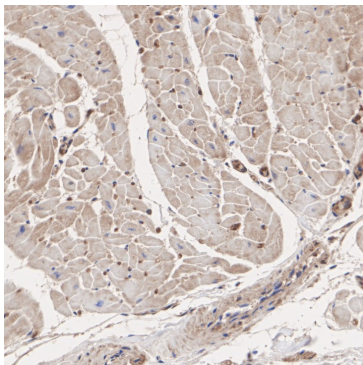
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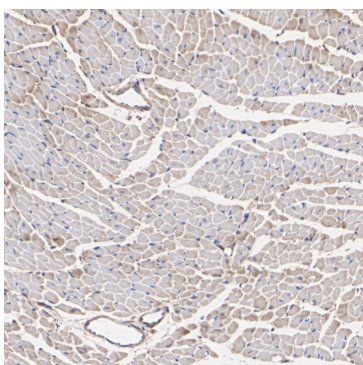
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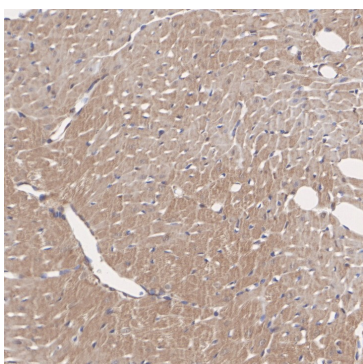
**Fig3:** Immunohistochemical analysis of paraffin-embedded human heart tissue with Rabbit anti-PPM1A antibody (ER1706-37) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH<sub>2</sub>O and PBS, and then probed with the primary antibody (ER1706-37) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.



**Fig4:** Immunohistochemical analysis of paraffin-embedded mouse heart tissue with Rabbit anti-PPM1A antibody (ER1706-37) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH<sub>2</sub>O and PBS, and then probed with the primary antibody (ER1706-37) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.



**Fig5:** Immunohistochemical analysis of paraffin-embedded rat heart tissue with Rabbit anti-PPM1A antibody (ER1706-37) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH<sub>2</sub>O and PBS, and then probed with the primary antibody (ER1706-37) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

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**Note:** All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

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### Background References

1. Ge Q et al. Protein phosphatase PPM1A inhibition attenuates osteoarthritis via regulating TGF-beta/Smad2 signaling in chondrocytes. JCI Insight. 2023 Feb
2. Feng D et al. Astrocytic NDRG2-PPM1A interaction exacerbates blood-brain barrier disruption after subarachnoid hemorrhage. Sci Adv. 2022 Sep

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