

# Anti-PPP3CB Antibody

## HA500370



<b>Product Type:</b>	Rabbit polyclonal IgG, primary antibodies
<b>Species reactivity:</b>	Human, Mouse, Rat
<b>Applications:</b>	WB, IHC-P
<b>Molecular Wt:</b>	Predicted band size: 59 kDa

**Description:** Calcium-dependent, calmodulin-stimulated protein phosphatase which plays an essential role in the transduction of intracellular Ca<sup>2+</sup>-mediated signals. Dephosphorylates and activates transcription factor NFATC1. Dephosphorylates and inactivates transcription factor ELK1. Dephosphorylates DARPP32. Negatively regulates MAP3K14/NIK signaling via inhibition of nuclear translocation of the transcription factors RELA and RELB (By similarity). May play a role in skeletal muscle fiber type specification (By similarity). Unlike for protein substrates, PPP3CB activity towards synthetic phosphatase substrate p-nitrophenyl phosphate (pNPP) is increased in presence of the immunosuppressant complex FKBP12-FK506. Activated by Ca<sup>2+</sup>-bound calmodulin following an increase in intracellular Ca<sup>2+</sup>. At low Ca<sup>2+</sup> concentrations, the catalytic subunit (also known as calcineurin A) is inactive and is bound to the regulatory subunit (also known as calcineurin B) in which only two high-affinity binding sites are occupied by Ca<sup>2+</sup>. In response to elevated calcium levels, the occupancy of the low-affinity sites on calcineurin B by Ca<sup>2+</sup> causes a conformational change of the C-terminal regulatory domain of calcineurin A, resulting in the exposure of the calmodulin-binding domain and in the partial activation of calcineurin A. The subsequent binding of Ca<sup>2+</sup>-bound calmodulin leads to the displacement of the autoinhibitory domain from the active site and possibly of the autoinhibitory segment from the substrate binding site which fully activates calcineurin A.

<b>Immunogen:</b>	Synthetic peptide within human PPP3CB aa 475-524.
<b>Positive control:</b>	Human brain tissue lysate, rat brain tissue lysate, rat brain tissue, mouse skeletal muscle tissue.
<b>Subcellular location:</b>	Cytoplasm
<b>Database links:</b>	SwissProt: P16298 Human   P48453 Mouse   P20651 Rat
<b>Recommended Dilutions:</b>	
<b>WB</b>	1:1,000
<b>IHC-P</b>	1:600
<b>Storage Buffer:</b>	PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.
<b>Storage Instruction:</b>	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.
<b>Purity:</b>	Immunogen affinity purified.

Hangzhou Huaan Biotechnology Co., Ltd.

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## Images

**Fig1:** Western blot analysis of PPP3CB on different lysates with Rabbit anti-PPP3CB antibody (HA500370) at 1/1,000 dilution.

Lane 1: Human brain tissue lysate

Lane 2: Rat brain tissue lysate

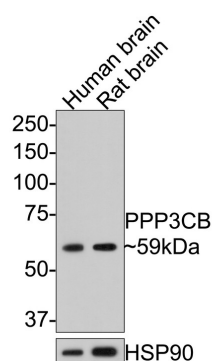
Lysates/proteins at 20 µg/Lane.

Predicted band size: 59 kDa

Observed band size: 59 kDa

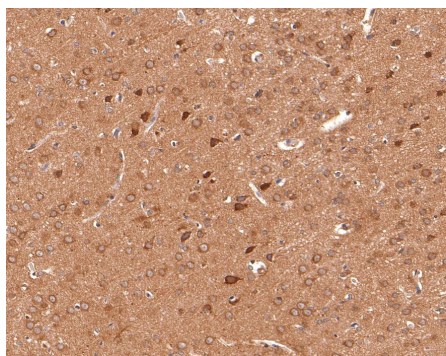
Exposure time: 2 minutes;

8% SDS-PAGE gel.



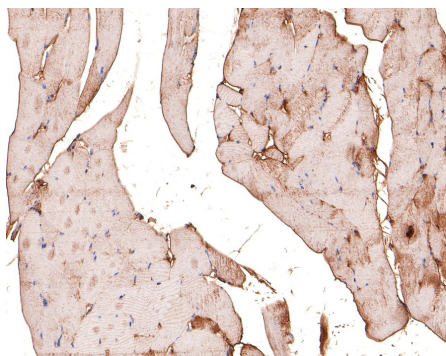
Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA500370) at 1/1,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:300,000 dilution was used for 1 hour at room temperature.

**Fig2:** Immunohistochemical analysis of paraffin-embedded rat brain tissue with Rabbit anti-PPP3CB antibody (HA500370) at 1/600 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 (HA500370) at 1/600 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.

**Fig3:** Immunohistochemical analysis of paraffin-embedded mouse skeletal muscle tissue with Rabbit anti-PPP3CB antibody (HA500370) at 1/600 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 (HA500370) at 1/600 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. Li S.J., Wang J., Ma L., Lu C., Wang J., Wu J.W., Wang Z.X. Cooperative autoinhibition and multi-level activation mechanisms of calcineurin. *Cell Res.* 26:336-349(2016).
2. Kilka S., Erdmann F., Migdoll A., Fischer G., Weiwad M. The proline-rich N-terminal sequence of calcineurin Abeta determines substrate binding. *Biochemistry* 48:1900-1910(2009).

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