

PCP4

Cat.No. 480 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For reconstitution add 100 µl H ₂ O, then aliquot and store at -20°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
Applications	WB: not recommended IP: not tested yet ICC: 1 : 500 IHC: 1 : 500 IHC-P: 1 : 500
Immunogen	full length human recombinant PCP4 (UniProt Id: P48539)
Reactivity	Reacts with: mouse (P63054), rat (P63055). Other species not tested yet.

TO BE USED IN VITRO / FOR RESEARCH ONLY
NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Background

Purkinje-cell protein 4 (PCP4) also known as PEP-19, is a small calmodulin (CaM)-binding protein that exhibits high expression levels in cerebellar Purkinje cells. PCP4 also occurs in neocortical structures, especially in the deep layers, and in other cortical structures and parts of the hippocampus. Furthermore, the olfactory bulb and caudate putamen show high PCP4 levels. (1). PCP4 selectively binds to the C-domain of CaM via an IQ motif (2) and modulates CaM signaling by acting at the level of Ca²⁺ binding to CaM (3).

Selected References for 480 004

Defining hippocampal area CA2 in the fox (*Vulpes vulpes*) brain.
Dudek SM, Phoenix AN, Scappini E, Shepeleva DV, Herbeck YE, Trut LN, Farris S, Kukekova AV
Hippocampus (2023) 336: 700-711. . **IHC**

MCU expression in hippocampal CA2 neurons modulates dendritic mitochondrial morphology and synaptic plasticity.
Pannoni KE, Fischer QS, Tarannum R, Cawley ML, Alsalman MM, Acosta N, Ezigbo C, Gil DV, Campbell LA, Farris S
Scientific reports (2025) 151: 4540. . **IHC; tested species: mouse**

Identification of hippocampal area CA2 in hamster and vole brain.
Siegler PN, Shaughnessy EK, Horman B, Vierling TT, King DH, Patisaul HB, Huhman KL, Alexander GM, Dudek SM
The Journal of comparative neurology (2024) 5323: e25603. . **IHC; tested species: mouse**

INSIHGT: an accessible multi-scale, multi-modal 3D spatial biology platform.
Yau CN, Hung JTS, Campbell RAA, Wong TCY, Huang B, Wong BTY, Chow NKN, Zhang L, Tsoi EPL, Tan Y, Li JJX, et al.
Nature communications (2024) 151: 10888. . **IHC; tested species: mouse**

Selected General References

Distribution of PCP4 protein in the forebrain of adult mice.
Renelt M et al. *Acta Histochem* (2014) PubMed:24954028

PEP-19 modulates calcium binding to calmodulin by electrostatic steering.
Wang X et al. *Nat Commun* (2016) PubMed:27876793

PEP-19, an intrinsically disordered regulator of calmodulin signaling.
Kleerekoper QK et al. *J Biol Chem* (2009) PubMed:19106096

Access the online factsheet including applicable protocols
at <https://sysy.com/product/480004> or scan the QR-code.



FAQ - How should I store my antibody?

Shipping Conditions

- All our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form without loss of quality at ambient temperatures for several weeks.

Storage of Sealed Vials after Delivery

- **Unlabeled** and **biotin-labeled antibodies** and **control proteins** should be stored at 4°C before reconstitution. **They must not be stored in the freezer when still lyophilized!** Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C.

Monoclonal Antibodies

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Polyclonal Antibodies

- **Crude antisera:** With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies:** Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Fluorescence-labeled Antibodies

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All our purified antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein. For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.