

Calretinin

Cat.No. 214 104; 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: 1 : 1000 (AP staining) IP: yes ICC: 1 : 500 IHC: 1 : 500 IHC-P: 1 : 200 up to 1 : 500
Immunogen	Full-length recombinant mouse Calretinin (UniProt Id: Q08331)
Reactivity	Reacts with: rat (P47728), mouse (Q08331), chicken, zebrafish. Other species not tested yet.
Matching control	214-1P
Remarks	IHC: For optimal results in retina tissue, follow the retina protocol according to Gierke et al. 2023 .

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

Background

Two isoforms of the vitamin D-dependent Ca-binding proteins have been described so far: **Calretinin**, also referred to as calbindin D29k, calbindin 2, CALB 2, CAL 2, and CAB 29, and calbindin D28k. These proteins are expressed in cells that have to handle a high calcium influx such as brain, bone, teeth, inner ear and others. Calbindins are believed to regulate cellular activity by suppressing or buffering intracellular calcium.

Selected References for 214 104

Cell age-specific vulnerability of neurons to anesthetic toxicity.

Hofacer RD, Deng M, Ward CG, Joseph B, Hughes EA, Jiang C, Danzer SC, Loepke AW
Annals of neurology (2013) 736: 695-704. . **IHC**

Morphology and connectivity of retinal horizontal cells in two avian species.

Günther A, Balaji V, Leberecht B, Forst JJ, Rotov AY, Woldt T, Abdulazhanova D, Mouritsen H, Dedek K
Frontiers in cellular neuroscience (2025) 19: 1558605. . **IHC; tested species: chicken**

Developmental changes of Reelin-expressing cell populations in the marginal zone of the neocortex of the European wild boar, *Sus scrofa*.

Sobierajski E, González-Gómez M, González-Arnay E, Wahle P, Meyer G
Brain structure & function (2025) 2306: 96. . **IHC; tested species: pig**

Persistently increased post-stress activity of paraventricular thalamic neurons is essential for the emergence of stress-induced alterations in behaviour.

Jász A, Biró L, Buday Z, Király B, Szalárdy O, Horváth K, Komlósi G, Bódizs R, Kovács KJ, Diana MA, Hangya B, et al.
PLoS biology (2025) 231: e3002962. . **IHC; tested species: mouse**

Early downregulation of hair cell (HC)-specific genes in the vestibular sensory epithelium during chronic ototoxicity.

Borrajó M, Greguske EA, Maroto AF, Palou A, Renner A, Giménez-Esbrí V, Sedano D, Gut M, Esteve-Codina A, Martín-Mur B, Barrallo-Gimeno A, et al.
Journal of biomedical science (2025) 321: 84. . **IHC; tested species: rat**

Maturation of type I and type II rat vestibular hair cells in vivo and in vitro.

Borrajó M, Sedano D, Palou A, Giménez-Esbrí V, Barrallo-Gimeno A, Llorens J
Frontiers in cell and developmental biology (2024) 12: 1404894. . **IHC; tested species: rat**

Apical-basal distribution of different subtypes of spiral ganglion neurons in the cochlea and the changes during aging.

Wang M, Lin S, Xie R
PloS one (2023) 1810: e0292676. . **IHC; tested species: mouse**

Multisensory gaze stabilization in response to subchronic alteration of vestibular type I hair cells.

Schenberg L, Palou A, Simon F, Bonnard T, Barton CE, Fricker D, Tagliabue M, Llorens J, Beranek M
eLife (2023) 12: . . **IHC; tested species: mouse**

The vestibular calyceal junction is dismantled following subchronic streptomycin in rats and sensory epithelium stress in humans.

Maroto AF, Borrajó M, Prades S, Callejo À, Amilibia E, Pérez-Grau M, Roca-Ribas F, Castellanos E, Barrallo-Gimeno A, Llorens J
Archives of toxicology (2023) 977: 1943-1961. . **IHC; tested species: rat**

Total Number and Ratio of GABAergic Neuron Types in the Mouse Lateral and Basal Amygdala.

Vereczki VK, Müller K, Krizsán É, Máté Z, Fekete Z, Rovira-Esteban L, Veres JM, Erdélyi F, Hájos N
The Journal of neuroscience : the official journal of the Society for Neuroscience (2021) 4121: 4575-4595. . **IHC; tested species: mouse**

Contribution of GABAergic interneurons to amyloid-β plaque pathology in an APP knock-in mouse model.

Rice HC, Marcassa G, Chrysidou I, Horré K, Young-Pearse TL, Müller UC, Saito T, Saido TC, Vassar R, de Wit J, De Strooper B, et al.
Molecular neurodegeneration (2020) 151: 3. . **IHC; tested species: mouse**

Access the online factsheet including applicable protocols
at <https://sysy.com/product/214104> 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 at 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.