SYSY Antibodies

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# 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 $H_2O$, then aliquot and store at -20°C until use.<br>Antibodies should be stored at +4°C when still lyophilized. Do not freeze!<br>For detailed information, see back of the data sheet. |
| Applications | **WB**: 1 : 1000 (AP staining)<br>**IP**: yes<br>**ICC**: 1 : 500<br>**IHC**: 1 : 500 (see remarks)<br>**IHC-P (FFPE)**: 1 : 200 up to 1 : 500 |
| Immunogen | Full-length recombinant mouse Calretinin (UniProt Id: Q08331) |
| Reactivity | Reacts with: rat (P47728), mouse (Q08331), chicken, zebrafish.<br>Other species not tested yet. |
| Matching control | 214-1P |
| Remarks | **IHC**: For optimal results in retina tissue, follow the retina protocol. |

**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 intracellur calcium.

For more information on protein expression pattern, please refer to the overview image in our SYSY Antibodies ATLAS.

## 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**

Sensory-Cell Population Integrity Required to Preserve Minimal and Normal Vestibulo-ocular Reflexes Reveals the Critical Role of Type I Hair Cells in Canal- and Otolith-Specific Functions.
Schenberg L, Simon F, Palou A, Djian C, Tagliabue M, Llorens J, Beraneck M
eNeuro (2026) 132: . . **IHC; tested species: mouse**

Layer-specific variation in intracellular GABA immunoreactivity in the neuronal organization of the mouse main olfactory bulb.
Satoh K, Ichikawa S, Toida K
Cell and tissue research (2026) 4052: . . **IHC; tested species: mouse**

Convergence and Segregation of Excitatory and Inhibitory Afferents in the Paraventricular Thalamic Nucleus.
Biró L, Buday Z, Kóta K, Lőrincz S, Acsády L
The Journal of neuroscience : the official journal of the Society for Neuroscience (2025) 4543: . . **IHC; tested species: mouse**

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

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**

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**

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

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, Beraneck M
eLife (2023) 12: . . **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 SYSY antibodies and control proteins/peptides are shipped lyophilized (vacuum freeze-dried). In this form, they remain stable 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. **Do not freeze lyophilized antibodies**. Temperatures below 0°C may impair performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long-term storage of lyophilized fluorophore-conjugates may cause aggregation.
- **Control peptides** should be stored at -20°C before reconstitution.

## Long Term Storage after Reconstitution (General Considerations)

- **Do not use frost-free ("no-frost") freezers.** These units periodically warm to remove ice buildup, causing freeze–thaw cycles that can damage antibodies.
- Store vials in areas with minimal temperature fluctuation - preferably toward the back of the freezer, not on the door.
- Aliquot reconstituted antibodies and store at –20°C to –80°C.
- Avoid very small aliquots (<20 µL), as evaporation and adsorption to tube surfaces can reduce antibody concentration and activity.
- Use the smallest practical storage vial to minimize surface area.
- Adding glycerol to a final concentration of 50% prevents freezing at -20°C, allowing storage in liquid form and effectively avoiding freeze–thaw cycles.

## Product Specific Hints for Storage

### Control proteins / peptides

- Store at -20°C to -80°C

### Monoclonal Antibodies

- **Ascites and hybridoma supernatant:** Store at -20°C to -80°C
  Prolonged storage at 4°C is not recommended, as proteases present in ascites may degrade antibodies.
- **Purified IgG:** Store at -20°C to -80°C
  Adding a carrier protein (e.g., BSA) enhances long-term stability.
  Many SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

### Polyclonal Antibodies

- **Crude antisera:** Can be stored at 4°C with antimicrobials added, but -20°C to -80°C is preferred
- **Affinity-purified antibodies:** Less stable than antisera; store at -20°C to -80°C
  Adding a carrier protein such as BSA improves long-term stability.
  Most SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

### Fluorescence-labeled Antibodies

- Store as a liquid with 1:1 (v/v) glycerol at -20°C, and protect from light exposure

# Avoid repeated freeze-thaw cycles for all antibodies!

# FAQ - How should I reconstitute my antibody?

## Reconstitution

- All purified SYSY antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the volume of deionized water specified in the corresponding datasheet. If a larger final volume is desired, first add the recommended amount of water, then adjust with PBS and, if needed, add a stabilizing carrier protein (e.g., BSA) to a final concentration of 2%. Some SYSY antibodies already contain albumin; please take this into account before adding additional carrier protein.

For complete reconstitution, carefully remove the vial cap. After adding water, briefly vortex the solution. To collect the liquid at the bottom of the vial, place the vial inside a 50 ml centrifuge tube padded with paper and centrifuge briefly.

- If desired, small amounts of azide or thimerosal may be added to prevent microbial growth. This is particularly recommended when storing an aliquot at 4°C.
- After reconstitution of fluorescence-labeled antibodies, add glycerol 1:1 (v/v) to achieve a final concentration of 50%. This prevents freezing at –20°C and keeps the antibody in liquid form, effectively avoiding freeze–thaw cycles.
- Glycerol may also be added to unlabeled primary antibodies as a general measure to prevent freeze–thaw damage.
- For further guidance, please refer to our **storage tips** and recommendations for reconstituted antibodies, control peptides, and control proteins.