SYSY Antibodies

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Calretinin

Cat.No. 214 102; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For **reconstitution** add 200 µl H_2O, 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 up to 1 : 5000 (AP staining) **IP**: yes **ICC**: 1 : 500 **IHC**: 1 : 500 **IHC-P (FFPE)**: external data (see remarks)
Immunogen	Full-length recombinant mouse Calretinin (UniProt Id: Q08331)
Reactivity	Reacts with: rat (P47728), mouse (Q08331), chicken, zebrafish, grashopper. Other species not tested yet.
Specificity	K.O. validated PubMed: 30015247
Matching control	214-1P
Remarks	**IHC-P (FFPE)**: This antibody has been successfully applied and published for this method by customers (see application-specific references). It has not been validated using our standard protocols.

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 214 102

Characterization and potential roles of calretinin in rodent spermatozoa.
Dressen C, Schwaller B, Vegh G, Leleux F, Gall D, Lebrun P, Lybaert P
Cell calcium (2018) 74: 94-101. . **WB, IHC-P; KO verified; tested species: mouse,rat**

Loss of Mecp2 Causes Atypical Synaptic and Molecular Plasticity of Parvalbumin-Expressing Interneurons Reflecting Rett Syndrome-Like Sensorimotor Defects.
Morello N, Schina R, Pilotto F, Phillips M, Melani R, Plicato O, Pizzorusso T, Pozzo-Miller L, Giustetto M
eNeuro () 55: . . **IHC; tested species: mouse**

In utero exposure to anti-Caspr2 antibody disrupts parvalbumin interneuron function in the hippocampus.
Bagnall-Moreau C, Strohl JJ, Spielman B, Cruz C, Huerta P, Brimberg L
Brain, behavior, and immunity (2026) 132: 106192. . **IHC; tested species: mouse**

Dendritic Degeneration and Altered Synaptic Innervation of a Central Auditory Neuron During Age-related Hearing Loss.
Wang M, Zhang C, Lin S, Xie R
Neuroscience (2023) 514: 25-37. . **IHC; tested species: mouse**

YTHDF2 in dentate gyrus is the m6A reader mediating m6A modification in hippocampus-dependent learning and memory.
Zhuang M, Geng X, Han P, Che P, Liang F, Liu C, Yang L, Yu J, Zhang Z, Dong W, Ji SJ, et al.
Molecular psychiatry (2023) 284: 1679-1691. . **IHC; tested species: mouse**

The Amyloid Precursor Protein Regulates Synaptic Transmission at Medial Perforant Path Synapses.
Lenz M, Eichler A, Kruse P, Galanis C, Kleidonas D, Andrieux G, Boerries M, Jedlicka P, Müller U, Deller T, Vlachos A, et al.
The Journal of neuroscience : the official journal of the Society for Neuroscience (2023) 4329: 5290-5304. . **IHC; tested species: mouse**

Calretinin-Expressing Synapses Show Improved Synaptic Efficacy with Reduced Asynchronous Release during High-Rate Activity.
Zhang C, Wang M, Lin S, Xie R
The Journal of neuroscience : the official journal of the Society for Neuroscience (2022) 4213: 2729-2742. . **IHC; tested species: mouse**

APPsα Rescues Tau-Induced Synaptic Pathology.
Bold CS, Baltissen D, Ludewig S, Back MK, Just J, Kilian L, Erdinger S, Banicevic M, Rehra L, Almouhanna F, Nigri M, et al.
The Journal of neuroscience : the official journal of the Society for Neuroscience (2022) 4229: 5782-5802. . **IHC; tested species: mouse**

Diversity in striatal synaptic circuits arises from distinct embryonic progenitor pools in the ventral telencephalon.
van Heusden F, Macey-Dare A, Gordon J, Krajeski R, Sharott A, Ellender T
Cell reports (2021) 354: 109041. . **IHC; tested species: mouse**

Biased auditory nerve central synaptopathy is associated with age-related hearing loss.
Wang M, Zhang C, Lin S, Wang Y, Seicol BJ, Ariss RW, Xie R
The Journal of physiology (2021) 5996: 1833-1854. . **IHC; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/214102 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.