SYSY Antibodies

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Calretinin

Cat.No. 214 111; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Albumin and azide were added for stabilization. For **reconstitution** add 100 µl H_2O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C to -80°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 : 200 up to 1 : 1000 (see remarks) **IHC-P (FFPE)**: 1 : 500 (see remarks)
Clone	37C9
Subtype	IgG1 (κ light chain)
Immunogen	Full-length recombinant mouse Calretinin (UniProt Id: Q08331)
Reactivity	Reacts with: rat (P47728), mouse (Q08331), human (P22676), zebrafish, rat (P47728), human (P22676). Other species not tested yet.
Specificity	Specific for calretinin / calbindin D29k.
Matching control	214-1P
Remarks	**IHC**: Antigen retrieval with citrate buffer pH 6 is not advised. **IHC-P (FFPE)**: For chromogenic detection, an optimized AGR time of 10 minutes is recommended for best results.

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 214 111

Non-canonical function of ADAM10 in presynaptic plasticity.
Bär J, Fanutza T, Reimann CC, Seipold L, Grohe M, Bolter JR, Delfs F, Bucher M, Gee CE, Schweizer M, Saftig P, et al.
Cellular and molecular life sciences : CMLS (2024) 811: 342. . **ICC; tested species: mouse**

Re-evaluation of neuronal P2X7 expression using novel mouse models and a P2X7-specific nanobody.
Kaczmarek-Hajek K, Zhang J, Kopp R, Grosche A, Rissiek B, Saul A, Bruzzone S, Engel T, Jooss T, Krautloher A, Schuster S, et al.
eLife (2018) 7: . . **IHC; tested species: mouse**

Role of PKN1 in Retinal Cell Type Formation.
Brunner M, Lang L, Künkel L, Weber D, Safari MS, Baier-Bitterlich G, Zur Nedden S
International journal of molecular sciences (2024) 255: . . **IHC; tested species: mouse**

Neuronal integration in the adult mouse olfactory bulb is a non-selective addition process.
Platel JC, Angelova A, Bugeon S, Wallace J, Ganay T, Chudotvorova I, Deloulme JC, Béclin C, Tiveron MC, Coré N, Murthy VN, et al.
eLife (2019) 8: . . **IHC; tested species: mouse**

Delivery of different genes into pre- and post-synaptic neocortical interneurons connected by GABAergic synapses.
Nagayach A, Singh A, De Blas AL, Geller AI
PloS one (2019) 145: e0217094. . **IHC; tested species: rat**

Characterization of perinatally born glutamatergic neurons of the mouse olfactory bulb based on NeuroD6 expression reveals their resistance to sensory deprivation.
Angelova A, Platel JC, Béclin C, Cremer H, Coré N
The Journal of comparative neurology (2019) 5277: 1245-1260. . **IHC; tested species: mouse**

NCAM Regulates Inhibition and Excitability in Layer 2/3 Pyramidal Cells of Anterior Cingulate Cortex.
Zhang X, Sullivan CS, Kratz MB, Kasten MR, Maness PF, Manis PB
Frontiers in neural circuits (2017) 11: 19. . **IHC; tested species: mouse**

Selected General References

Influence of the "open field" exposure on calbindin D28K, calretinin, and parvalbumin containing cells in the rat midbrain - developmental study.
Klejbor I et al. J. Physiol. Pharmacol. (2006) PubMed:16601322

Calbindin D-28 and microtubule-associated protein-2: their use as sensitive immunohistochemical markers of cerebellar neurotoxicity in a regulatory toxicity study.
Haworth R et al. Exp. Toxicol. Pathol. (2006) PubMed:16542831

Mutational analysis of dendritic Ca2+ kinetics in rodent Purkinje cells: role of parvalbumin and calbindin D28k.
Schmidt H et al. J. Physiol. (Lond.) (2003) PubMed:12813159

Access the online factsheet including applicable protocols at https://sysy.com/product/214111 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.