SYSY Antibodies

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GFP

Cat.No. 132 003; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin and azide were added for stabilization. For **reconstitution** add 50 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 up to 1 : 20000 (AP staining) **IP**: yes **ICC**: 1 : 500 **IHC**: 1 : 500 **IHC-P (FFPE)**: not tested yet
Immunogen	Recombinant protein corresponding to AA 1 to 238 from jellyfish GFP (UniProt Id: P42212)
Specificity	Recognizes GFP, mEGFP, superfolder GFP, most common CFP and YFP variants.Does not cross-react to mCherry, mRFP, dsRed, mTagBFP or their most common derivatives.

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

Background

Green **f**luorescent **p**rotein **GFP** and its derivates have become universal tools in cell biology. These antibodies allow immunoprecipitation and visualization of GFP fusion proteins on immunoblots and by immunocytochemistry.

Selected References for 132 003

Tyrosine phosphorylation regulates the endocytosis and surface expression of GluN3A-containing NMDA receptors.
Chowdhury D, Marco S, Brooks IM, Zandueta A, Rao Y, Haucke V, Wesseling JF, Tavalin SJ, Pérez-Otaño I
The Journal of neuroscience : the official journal of the Society for Neuroscience (2013) 339: 4151-64. . **IP, ICC**

The catalytic function of the gephyrin-binding protein IQSEC3 regulates neurotransmitter-specific matching of pre- and postsynaptic structures in primary hippocampal cultures.
Früh S, Tyagarajan SK, Campbell B, Bosshard G, Fritschy JM
Journal of neurochemistry (2018) : . . **WB; tested species: rat**

Drosophila gene tao-1 encodes proteins with and without a Ste20 kinase domain that affect cytoskeletal architecture and cell migration differently.
Pflanz R, Voigt A, Yakulov T, Jäckle H
Open biology (2015) 51: 140161. . **IHC**

Orb2 RNA-binding activity promotes neural stem cell development and brain growth in Drosophila larvae.
Hailstock T, Buehler J, Robinson BV, Low TCH, Hua Y, Adebambo TH, Ahn J, Govaerts J, Schoborg TA, Lipshitz HD, Lerit DA, et al.
Cell reports (2026) 457: 117680. . **IHC; tested species: drosophila**

Rescue of Normal Excitability in LGI1-Deficient Epileptic Neurons.
Extrémet J, Ramirez-Franco J, Fronzaroli-Molinieres L, Boumedine-Guignon N, Ankri N, El Far O, Garrido JJ, Debanne D, Russier M
The Journal of neuroscience : the official journal of the Society for Neuroscience (2023) 4350: 8596-8606. . **IHC; tested species: mouse**

NMDA receptor-targeted enrichment of CaMKIIα improves fear memory.
Chifor A, Choi J, Park J
iScience (2022) 258: 104864. . **IHC; tested species: mouse**

DAPK1 Promotes Extrasynaptic GluN2B Phosphorylation and Striatal Spine Instability in the YAC128 Mouse Model of Huntington Disease.
Schmidt ME, Caron NS, Aly AE, Lemarié FL, Dal Cengio L, Ko Y, Lazic N, Anderson L, Nguyen B, Raymond LA, Hayden MR, et al.
Frontiers in cellular neuroscience (2020) 14: 590569. . **ICC; tested species: mouse**

Ca2+/calmodulin binding to PSD-95 mediates homeostatic synaptic scaling down.
Chowdhury D, Turner M, Patriarchi T, Hergarden AC, Anderson D, Zhang Y, Sun J, Chen CY, Ames JB, Hell JW
The EMBO journal (2018) 371: 122-138. . **IP**

Revisiting adult neurogenesis and the role of erythropoietin for neuronal and oligodendroglial differentiation in the hippocampus.
Hassouna I, Ott C, Wüstefeld L, Offen N, Neher RA, Mitkovski M, Winkler D, Sperling S, Fries L, Goebbels S, Vreja IC, et al.
Molecular psychiatry (2016) 2112: 1752-1767. . **IHC**

The GTPase Rab26 links synaptic vesicles to the autophagy pathway.
Binotti B, Pavlos NJ, Riedel D, Wenzel D, Vorbrüggen G, Schalk AM, Kühnel K, Boyken J, Erck C, Martens H, Chua JJ, et al.
eLife (2015) 4: e05597. . **IP**

Bällchen is required for self-renewal of germline stem cells in Drosophila melanogaster.
Herzig B, Yakulov TA, Klinge K, Günesdogan U, Jäckle H, Herzig A
Biology open (2014) 36: 510-21. . **ICC**

Morphological, biophysical and synaptic properties of glutamatergic neurons of the mouse spinal dorsal horn.
Punnakkal P, von Schoultz C, Haenraets K, Wildner H, Zeilhofer HU
The Journal of physiology (2014) 5924: 759-76. . **IHC**

Access the online factsheet including applicable protocols at https://sysy.com/product/132003 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.