SYSY Antibodies

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RFP (mCherry)

Cat.No. 390 004; 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. 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**: not tested yet **ICC**: 1 : 500 up to 1 : 1000 **IHC**: 1 : 200 up to 1 : 500 **IHC-P**: 1 : 200 **iDISCO**: external data (see remarks)
Immunogen	Recombinant protein corresponding to AA 1 to 236 from mCherry (UniProt Id: X5DSL3)
Specificity	Recognizes mRFP, mCherry, mOrgange2, dsRed, tdTomato, mScarlet.
Remarks	**iDISCO**: This antibody has been successfully applied and published for this method by customers (see application-specific references).

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

Background

Red **f**luorescent **p**rotein **RFP** and its derivates have become universal tools in cell biology. Most RFPs derive from a protein isolated from Discosoma sp. They are used as fluorescent tags to investigate expression levels, patterns and protein localization.

Selected References for 390 004

Fetal rat neural progenitor cell transplantation after spinal cord injury improves motor recovery following optogenetic stimulation.
Sánchez-Martín MDM, Giraldo E, Alastrue-Agudo A, López-Mocholi E, Martín-Pérez S, Maninno L, Paniagua Soriano G, Fraga Sánchez AI, Monreal-Trigo J, Terrés-Haro JM, Vidal Beneyto Q, et al.
Molecular therapy : the journal of the American Society of Gene Therapy (2025) : . . **ICC, IHC, IDISCO; tested species: rat**

Munc13-1 couples DAG and Ca2+ signaling to dynamic vesicle priming, synaptic short-term plasticity, and posttetanic potentiation.
Ranjan M, Lin KH, Mueller BD, Wojcik SM, Lohse M, Südhof TC, Jorgensen EM, Neher E, Lipstein N, Brose N, Taschenberger H, et al.
Science advances (2026) 127: eaea0449. . **WB; tested species: mouse**

Mapping of multiple neurotransmitter receptor subtypes and distinct protein complexes to the connectome.
Sanfilippo P, Kim AJ, Bhukel A, Yoo J, Mirshahidi PS, Pandey V, Bevir H, Yuen A, Mirshahidi PS, Guo P, Li HS, et al.
bioRxiv : the preprint server for biology (2023) : . . **IHC_G; tested species: drosophila**

Astrocyte-microglia crosstalk through Hevin and Toll-like receptor signaling controls developmental thalamocortical synapse refinement.
Ramirez JJ, Hardin EJ, Sakers K, Kim J, Colón Ortiz C, Savage JT, Hanamsagar R, Block CL, Singh SK, Bilbo SD, Eroglu C, et al.
Neuron (2026) : . . **IHC; tested species: mouse**

Stc1-expressing myofibroblasts are a developmentally distinct lineage cleared through apoptosis in the neonatal lung.
Snitow ME, Michki SN, Chaudhry FN, Park Y, Dherwani R, Katzen JB, Frank DB, Zepp JA
Cell reports (2026) 451: 116750. . **IHC; tested species: mouse**

Convergent Recruitment of Cerebellar Purkinje Cells by Mechanistically Diverse General Anesthetics.
Utsumi N, Tanaka DH, Nakai A, Inaba S, Nonaka S, Maeda S, Uesaka N
Journal of neurochemistry (2025) 16912: e70331. . **IHC; tested species: mouse**

Domain-like patterning of dendritic asymmetry and orientation defined by gap junctions in the mouse retina.
Szarka G, Futácsi A, Kovács-Öller T, Balogh B, Czéh B, Völgyi B
iScience (2025) 2812: 113922. . **IHC; tested species: mouse**

D1-type dopamine receptors are critical for GABAergic synaptic plasticity in CA1 mouse hippocampal SST interneurons and pyramidal cells.
Brzdąk P, Lebida K, Droździel P, Stefańczyk E, Leszczyńska A, Mozrzymas JW
Progress in neurobiology (2025) 255: 102845. . **IHC; tested species: mouse**

An early surge of norepinephrine along brainstem pathways drives sensory-evoked awakening.
Matosevich N, Regev N, Kimchy U, Zelinger N, Kabaha S, Gabay N, Marmelshtein A, Nir Y
Science advances (2025) 1137: eadw6375. . **IHC; tested species: mouse**

Cadherin 4 assembles a family of color-preferring retinal circuits that respond to light offset.
Olguin AGR, Rochon PL, Theriault C, Brown T, Yao H, Cayouette M, Cook EP, Krishnaswamy A
Current biology : CB (2025) 356: 1298-1310.e7. . **IHC; tested species: mouse**

Stimulation of corticospinal neurons by optogenetic cAMP inductions promotes motor recovery after spinal cord injury in female rats via raphespinal tract modulation.
Martínez-Rojas B, Martín-Pérez S, Giraldo E, Lopez-Mocholi E, Alastrue A, Andrade-Talavera Y, Prius-Mengual J, Paniagua G, Pedraza M, Hingorani S, Rost BR, et al.
Nature communications (2025) 161: 5885. . **IHC; tested species: rat**

Access the online factsheet including applicable protocols at https://sysy.com/product/390004 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.