SYSY Antibodies

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RFP (mScarlet)

Cat.No. 409 006; Polyclonal chicken 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**: not tested yet **IP**: not tested yet **ICC**: 1 : 500 up to 1 : 1000 **IHC**: 1 : 500 up to 1 : 1000 **IHC-P (FFPE)**: 1 : 500 up to 1 : 1000
Immunogen	Recombinant protein corresponding to AA 1 to 219 from sea anemone mScarlet
Specificity	Recognizes mScarlet, mRFP, mCherry and tdTomato.

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 409 006

Imaging cellular activity across all organs reveals body-wide circuits.
Ruetten VMS, Zheng W, Siwanowicz I, Mensh BD, Eddison M, Hu A, Chi Y, Lemire AL, Guo C, Kadobianskyi M, Renz M, et al.
Nature (2026) : . . **EXM; tested species: zebrafish**

Compartmentalized dendritic plasticity in the mouse retrosplenial cortex links contextual memories formed close in time.
Sehgal M, Filho DA, Kastellakis G, Kim S, Lee J, Shen Y, Huang S, Lavi A, Fernandes G, Davila Mejia I, Martin SS, et al.
Nature neuroscience (2025) : . . **IHC; tested species: mouse**

Cortical organoid-derived models of the melanoma brain metastatic niche enable prioritization of cancer-targeting drugs.
Krieg K, Materna-Reichelt S, Naber T, Rachad FZ, Kauven P, Weller A, Haferkamp U, Wittich A, Zaliani A, Woo MS, Walkenhorst M, et al.
Cell reports methods (2025) : 101236. . **IHC-P; tested species: human**

The vSNAREs VAMP2 and VAMP4 control recycling and intracellular sorting of post-synaptic receptors in neuronal dendrites.
Bakr M, Jullié D, Krapivkina J, Paget-Blanc V, Bouit L, Petersen JD, Retailleau N, Breillat C, Herzog E, Choquet D, Perrais D, et al.
Cell reports (2021) 3610: 109678. . **ICC**

Spectrin condensates provide a nidus for assembling the axonal membrane-associated periodic skeleton.
Boyer NP, Sharma R, Wiesner T, Parperis C, Delamare A, Pelletier F, Jullien N, Bhatt AM, Parra-Rivas LA, Kearney PJ, Shavarebi F, et al.
iScience (2026) 291: 114454. . **ICC; tested species: mouse,rat**

The prefrontal cortex controls memory organization in the hippocampus.
de Sousa AF, Zeidler ZE, Almeida-Filho DG, Shen Y, Luchetti A, Simanian S, Mardini M, DeNardo LA, Silva AJ
Nature neuroscience (2026) : . . **IHC; tested species: mouse**

The Ventral Pallidum Innervates a Distinct Subset of Midbrain Dopamine Neurons.
Yang OJ, Elam HB, Lilly K, McCoy AM, Klepikova V, Perez SM, Lodge DJ
eNeuro (2025) 1210: . . **IHC; tested species: rat**

Genetic targeting of myelinated primary afferent neurons using a new NefhCreERT2 knock-in mouse.
Chen JC, Kaczmarczyk L, de-Faria FM, Szczot M, Jackson WS, Larsson M
Scientific reports (2025) 151: 10890. . **IHC; tested species: mouse**

A NaV1.8FlpO mouse enabling selective intersectional targeting of low threshold C fiber mechanoreceptors and nociceptors.
Chen JCY, Kaczmarczyk L, Jackson WS, Larsson M
Frontiers in molecular neuroscience (2025) 18: 1574219. . **IHC; tested species: mouse**

Senescence-induced cellular reprogramming drives cnidarian whole-body regeneration.
Salinas-Saavedra M, Febrimarsa , Krasovec G, Horkan HR, Baxevanis AD, Frank U
Cell reports (2023) 427: 112687. . **ICC**

Endocytosis in the axon initial segment maintains neuronal polarity.
Eichel K, Uenaka T, Belapurkar V, Lu R, Cheng S, Pak JS, Taylor CA, Südhof TC, Malenka R, Wernig M, Özkan E, et al.
Nature (2022) : . . **ICC; tested species: rat**

Selected General References

Ubiquitous expression of the monomeric red fluorescent protein mCherry in transgenic mice.
Fink D et al. Genesis (2010) PubMed:20853428

Improved monomeric red, orange and yellow fluorescent proteins derived from Discosoma sp. red fluorescent protein.
Shaner NC et al. Nat. Biotechnol. (2004) PubMed:15558047

Access the online factsheet including applicable protocols at https://sysy.com/product/409006 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.