

## RFP (mCherry)

Cat.No. 390 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

### Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For <b>reconstitution</b> add 100 µl H <sub>2</sub> O, 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	<b>WB:</b> 1 : 1000 (AP staining) <b>IP:</b> not tested yet <b>ICC:</b> 1 : 500 up to 1 : 1000 <b>IHC:</b> 1 : 200 up to 1 : 500 <b>IHC-P:</b> 1 : 200
Immunogen	Recombinant protein corresponding to AA 1 to 236 from mCherry (UniProt Id: X5DSL3)
Specificity	Recognizes mRFP, mCherry, mOrgange2, dsRed, tdTomato, mScarlet.

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

## Background

Red fluorescent protein **RFP** and its derivatives 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

- 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; tested species: drosophila**
- Donor cell memory confers a metastable state of directly converted cells. Kim KP, Li C, Bunina D, Jeong HW, Ghelman J, Yoon J, Shin B, Park H, Han DW, Zaugg JB, Kim J, et al. *Cell stem cell* (2021) 287: 1291-1306.e10. . **ICC; tested species: mouse**
- Amygdala inhibitory neurons as loci for translation in emotional memories. Shrestha P, Shan Z, Mamcarz M, Ruiz KSA, Zerihoun AT, Juan CY, Herrero-Vidal PM, Pelletier J, Heintz N, Klann E. *Nature* (2020) 5867829: 407-411. . **IHC; tested species: mouse**
- 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**
- Chromatin modification abnormalities by CHD7 and KMT2C loss promote medulloblastoma progression. Wang W, Kumegawa K, Chapman OS, Shiraishi R, Xiao Z, Okonechnikov K, Sun Y, Pfister SM, Feng W, Uesaka N, Hoshino M, et al. *Cell reports* (2025) : 115673. . **ICC; tested species: mouse**
- Generation of Dopamine Transporter (DAT)-mCherry Knock-in Rats by CRISPR-Cas9 Genome Editing. Matsumoto N, Miyano M, Abe T, Kashima T, Kato-Ishikura E, Inoue KI, Liu J, Kiyonari H, Takeuchi H, Ikegaya Y. *Biological & pharmaceutical bulletin* (2024) 472: 394-398. . **IHC; tested species: rat**
- Crym-positive striatal astrocytes gate perseverative behaviour. Ollivier M, Soto JS, Linker KE, Moye SL, Jami-Alahmadi Y, Jones AE, Divakaruni AS, Kawaguchi R, Wohlschlegel JA, Khakh BS. *Nature* (2024) : . . **IHC; 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. *Neuron* (2024) 1126: 942-958.e13. . **IHC; tested species: drosophila**
- Transplantation of dorsal root ganglia overexpressing the NaChBac sodium channel improves locomotion after complete SCI. Hingorani S, Paniagua Soriano G, Sánchez Huertas C, Villalba Riquelme EM, López Mocholi E, Martínez Rojas B, Alastrué Agudo A, Dupraz S, Ferrer Montiel AV, Moreno Manzano V. *Molecular therapy : the journal of the American Society of Gene Therapy* (2024) : . . **IHC; tested species: rat**
- Populations of Hindbrain Glucagon-Like Peptide 1 (GLP1) Neurons That Innervate the Hypothalamic PVH, Thalamic PVT, or Limbic Forebrain BST Have Axon Collaterals That Reach All Central Regions Innervated by GLP1 Neurons. Randolph AB, Zheng H, Rinaman L. *The Journal of neuroscience : the official journal of the Society for Neuroscience* (2024) 4431: . . **IHC; tested species: rat**
- Optogenetic estimation of synaptic connections in brain slices. Kashima T, Sasaki T, Ikegaya Y. *Journal of neuroscience methods* (2024) 412: 110298. . **IHC; tested species: mouse**
- Modulation of stress-related behaviour by preproglucagon neurons and hypothalamic projections to the nucleus of the solitary tract. Holt MK, Valderrama N, Polanco MJ, Hayter I, Badenoch EG, Trapp S, Rinaman L. *Molecular metabolism* (2024) 91: 102076. . **IHC; tested species: mouse**
- Prelimbic cortex ensembles promote appetitive learning-associated behavior. Surets M, Caban-Murillo A, Ramirez S. *Learning & memory (Cold Spring Harbor, N.Y.)* (2024) 311-2: . . **IHC; tested species: mouse**

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 our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form 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. **They must not be stored in the freezer when still lyophilized!** Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

## Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

## Product Specific Hints for Storage

### Control proteins / peptides

- Store at -20°C to -80°C.

### Monoclonal Antibodies

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

### Polyclonal Antibodies

- **Crude antisera:** With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies:** Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

### Fluorescence-labeled Antibodies

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

# Avoid repeated freeze-thaw cycles for all antibodies!

## FAQ - How should I reconstitute my antibody?

### Reconstitution

- All our purified antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein. For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.