SYSY Antibodies

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Endophilin1

Cat.No. 159 002; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For **reconstitution** add 200 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 up to 1 : 10000 (AP staining) **IP**: yes **ICC**: 1 : 500 **IHC**: 1 : 200 **IHC-P (FFPE)**: 1 : 1000
Immunogen	Synthetic peptide corresponding to AA 256 to 276 from mouse Endophilin1 (UniProt Id: Q62420)
Reactivity	Reacts with: rat (O35179), mouse (Q62420). Other species not tested yet.
Specificity	K.O. validated PubMed: 29892212
Matching control	159-0P

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

Background

Endophilins are SH3 domain proteins involved in endocytosis. Both, **Endophilin 1** and **2** have been shown to play important roles in clathrin mediated synaptic vesicle recycling. They recruite and stabilize the polyphosphoinositide phosphatase synaptojanin at nerve terminals.
The divergent C-terminal tail of VgluT1 has been reported to be a binding partner of Endophilin A1.
In contrast to Endophilin 1 that shows a brain specific expression, Endophilin 2 is abundantly expressed in different tissues.

Selected References for 159 002

Endophilin A1 Promotes Actin Polymerization in Dendritic Spines Required for Synaptic Potentiation.
Yang Y, Chen J, Guo Z, Deng S, Du X, Zhu S, Ye C, Shi YS, Liu JJ
Frontiers in molecular neuroscience (2018) 11: 177. . **WB, ICC, IHC; KO verified; tested species: mouse**

Evidence for a Clathrin-independent mode of endocytosis at a continuously active sensory synapse.
Fuchs M, Brandstätter JH, Regus-Leidig H
Frontiers in cellular neuroscience (2014) 8: 60. . **IHC, EM; tested species: rat**

Dopamine transporter and synaptic vesicle sorting defects underlie auxilin-associated Parkinson's disease.
Vidyadhara DJ, Somayaji M, Wade N, Yücel B, Zhao H, Shashaank N, Ribaudo J, Gupta J, Lam TT, Sames D, Greene LE, et al.
Cell reports (2023) 423: 112231. . **WB, IHC; tested species: mouse**

Composition of isolated synaptic boutons reveals the amounts of vesicle trafficking proteins.
Wilhelm BG, Mandad S, Truckenbrodt S, Kröhnert K, Schäfer C, Rammner B, Koo SJ, Claßen GA, Krauss M, Haucke V, Urlaub H, et al.
Science (New York, N.Y.) (2014) 3446187: 1023-8. . **ICC, IHC; tested species: mouse,rat**

A local, periactive zone endocytic machinery at photoreceptor synapses in close vicinity to synaptic ribbons.
Wahl S, Katiyar R, Schmitz F
The Journal of neuroscience : the official journal of the Society for Neuroscience (2013) 3325: 10278-300. . **WB, ICC**

Synaptic vesicle endocytosis deficits underlie cognitive dysfunction in mouse models of GBA-linked Parkinson's disease and dementia with Lewy bodies.
Vidyadhara DJ, Bäckström D, Chakraborty R, Ruan J, Park JM, Mistry PK, Chandra SS
Nature communications (2025) 161: 8484. . **IHC; tested species: mouse**

Central biogenic amine deficiency with concomitant exploratory behavioral deficits in Dnajc12 knock-out mice.
Deng IB, Follett J, Fox JD, Wall S, Farrer MJ
NPJ Parkinson's disease (2025) 111: 143. . **WB; tested species: mouse**

Mechanisms mediating dynamic changes in neural responses during deep brain stimulation.
Dale JA, Schmidt SL, Mitchell KT, Peters JJ, Turner DA, Grill WM
Brain stimulation (2025) 191: 103002. . **IHC; tested species: rat**

Trafficking proteins show limited differences in mobility across different postsynaptic spines.
Mougios N, Opazo F, Rizzoli SO, Reshetniak S
iScience (2023) 262: 105971. . **ICC; tested species: rat**

The first synapse in vision in the aging mouse retina.
Gierke K, Lux UT, Regus-Leidig H, Brandstätter JH
Frontiers in cellular neuroscience (2023) 17: 1291054. . **IHC; tested species: mouse**

Loss of the parkinsonism-associated protein FBXO7 in glutamatergic forebrain neurons in mice leads to abnormal motor behavior and synaptic defects.
Wang J, Joseph S, Vingill S, Dere E, Tatenhorst L, Ronnenberg A, Lingor P, Preisinger C, Ehrenreich H, Schulz JB, Stegmüller J, et al.
Journal of neurochemistry (2023) : . . **IHC; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/159002 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.