SYSY Antibodies

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VGLUT3 (SLC17A8)

Cat.No. 135 204; 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) (see remarks) **IP**: not tested yet **ICC**: external data (see remarks) **IHC**: 1 : 500 **IHC-P (FFPE)**: not tested yet **Clarity**: external data (see remarks)
Immunogen	Synthetic peptide corresponding to residues near the carboxy terminus of mouse VGLUT3 (UniProt Id: Q8BFU8)
Reactivity	Reacts with: mouse (Q8BFU8), rat (Q7TSF2). Other species not tested yet.
Specificity	K.O. validated PubMed: 28559797
Matching control	135-2P
Remarks	**WB**: To avoid protein aggregation, do not heat samples for SDS-PAGE. Due to the low abundance of this protein in the brain, immunoblotting is difficult. **ICC**: This antibody has been successfully applied and published for this method by customers (see application-specific references). It has not been validated using our standard protocols. **Clarity**: 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

The **v**esicular **glu**tamate **t**ransporter **3 VGLUT 3** is closely related to VGLUT 1 and VGLUT 2 by sequence similarity. However, VGLUT 3 defines a new distinct glutamatergic system in brain which is strictly seperated from VGLUT 1 and VGLUT 2 synapses. Co-localization with the acetylcholine transporter VAChT and the monoamine transporter 2 VMaT 2 has been observed.

Selected References for 135 204

Regulation of the Hippocampal Network by VGLUT3-Positive CCK- GABAergic Basket Cells.
Fasano C, Rocchetti J, Pietrajtis K, Zander JF, Manseau F, Sakae DY, Marcus-Sells M, Ramet L, Morel LJ, Carrel D, Dumas S, et al.
Frontiers in cellular neuroscience (2017) 11: 140. . **WB, IHC; KO verified; tested species: mouse**

Loss-of-consciousness: sources of GABAergic input to the mesopontine tegmental anesthesia area.
Ibraheem A, Vaso K, Minert A, Yatziv SL, Baron M, Devor M
Frontiers in neuroscience (2025) 19: 1594984. . **CLARITY; tested species: rat**

Oxidative Stress Plays an Important Role in Glutamatergic Excitotoxicity-Induced Cochlear Synaptopathy: Implication for Therapeutic Molecules Screening.
Saidia AR, François F, Casas F, Mechaly I, Venteo S, Veechi JT, Ruel J, Puel JL, Wang J
Antioxidants (Basel, Switzerland) (2024) 132: . . **ICC; tested species: mouse**

Gating of hair cell Ca2+ channels governs the activity of cochlear neurons.
Karagulyan N, Thirumalai A, Michanski S, Qi Y, Fang Q, Wang H, Ortner NJ, Striessnig J, Strenzke N, Wichmann C, Hua Y, et al.
Science advances (2025) 1125: eadu7898. . **IHC; tested species: mouse**

Differentiated Presynaptic Input to OLM□2 Cells Along the Hippocampal Dorsoventral Axis: Implications for Hippocampal Microcircuit Function.
Thulin A, Henriksson K, Nogueira I, Kullander K
Hippocampus (2025) 355: e70026. . **IHC; tested species: mouse**

Increased c-Fos immunoreactivity in anxiety-related brain regions following paroxetine discontinuation.
Collins HM, Gullino LS, Fuller C, Pinacho R, Bannerman DM, Sharp T
Neuropharmacology (2025) : 110541. . **IHC; tested species: mouse**

Retinal ganglion cell-derived semaphorin 6A segregates starburst amacrine cell dendritic scaffolds to organize the inner retina.
James RE, Hamilton NR, Huffman LN, Neckles VN, Pasterkamp RJ, Goff LA, Kolodkin AL
Development (Cambridge, England) (2024) : . . **IHC; tested species: mouse**

Adaptation to photoperiod via dynamic neurotransmitter segregation.
Maddaloni G, Chang YJ, Senft RA, Dymecki SM
Nature (2024) 6328023: 147-156. . **IHC; tested species: mouse**

Early-Onset Hearing Loss in Mouse Models of Alzheimer's Disease and Increased DNA Damage in the Cochlea.
Park JH, Sahbaz BD, Pekhale K, Chu X, Okur MN, Grati M, Isgrig K, Chien W, Chrysostomou E, Sullivan L, Croteau DL, et al.
Aging Biology (2024) 1: . . **IHC; tested species: mouse**

Parallel streams of raphe VGLUT3-positive inputs target the dorsal and ventral hippocampus in each hemisphere.
Fortin-Houde J, Henderson F, Dumas S, Ducharme G, Amilhon B
The Journal of comparative neurology (2023) 5317: 702-719. . **IHC; tested species: mouse**

Proteomic analysis reveals the composition of glutamatergic organelles of auditory inner hair cell.
Cepeda AP, Ninov M, Neef J, Parfentev I, Kusch K, Reisinger E, Jahn R, Moser T, Urlaub H
Molecular & cellular proteomics : MCP (2023) : 100704. . **IHC; tested species: mouse**

The complement inhibitor CD59 is required for GABAergic synaptic transmission in the dentate gyrus.
Wen L, Yang X, Wu Z, Fu S, Zhan Y, Chen Z, Bi D, Shen Y
Cell reports (2023) 424: 112349. . **IHC; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/135204 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.