SYSY Antibodies

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Glycine receptor

Cat.No. 146 008; Recombinant rabbit antibody, 50 µg recombinant IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg purified recombinant IgG, lyophilized. 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**: 1 : 1000 (AP staining) **IP**: not tested yet **ICC**: external data (see remarks) **IHC**: 1 : 500 up to 1 : 5000 (see remarks) **IHC-P (FFPE)**: 1 : 500
Clone	RbmAb4a
Subtype	IgG1 (κ light chain)
Immunogen	Nativ Protein corresponding to AA 1 to 457 from rat Glycine receptor α1 (UniProt Id: P07727)
Epitop	AA 96 to 105 from rat Glycine receptor α1 (UniProt Id: P07727)
Reactivity	Reacts with: human (P23415, P23416, P48167), rat (P07727, P22771, P20781), mouse (Q64018, Q7TNC8, P48168), pig, zebrafish. Other species not tested yet.
Specificity	Specific for all glycine receptor subunits.
Remarks	This antibody is a chimeric antibody based on the well known monoclonal mouse antibody mAb4a. The constant regions of the heavy and light chains have been replaced with rabbit specific sequences. The antibody can therefore be used with standard anti-rabbit secondary reagents. It also carries a Strep-tag at the C-terminus of the heavy chain.The antibody has been expressed in mammalian cells. **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. **IHC**: Antigen retrieval with methanol/acetic acid is required. For details see Dumoulin A, Triller A & Dieudonné S (2001).

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

Background

The inhibitory **glycine receptor** (GlyR) is a member of the ligand-gated ion channel superfamily of neurotransmitter receptors. It is an oligomeric protein composed of homologous subunits (α 1-4 and β) with four transmembrane segments (M1-M4) each.
It shows a widespread expression profile in brain. Several isoforms and splice variants with distinct pharmacology have been discovered so far.

Selected References for 146 008

Induced epileptic seizures in larval zebrafish reveal a synaptic modulation associated with the post-ictal state.
Meron D, Levinsky Y, Prendes M, Brosh I, Freiman M, Freifeld L
Brain communications (2026) 85: fcag323. . **EXM; tested species: zebrafish**

Brain volume increase and neuronal plasticity underly predator-induced morphological defense expression in Daphnia longicephala.
Graeve A, Ioannidou I, Reinhard J, Görl DM, Faissner A, Weiss LC
Scientific reports (2021) 111: 12612. . **IHC**

Ethanol consumption and sedation are altered in mice lacking the glycine receptor α2 subunit.
San Martin L, Gallegos S, Araya A, Romero N, Morelli G, Comhair J, Harvey RJ, Rigo JM, Brone B, Aguayo LG
British journal of pharmacology (2020) 17717: 3941-3956. . **WB; tested species: mouse**

Role of the Glycine Receptor β Subunit in Synaptic Localization and Pathogenicity in Severe Startle Disease.
Wiessler AL, Hasenmüller AS, Fuhl I, Mille C, Cortes Campo O, Reinhard N, Schenk J, Heinze KG, Schaefer N, Specht CG, Villmann C, et al.
The Journal of neuroscience : the official journal of the Society for Neuroscience (2024) 442: . . **WB; tested species: mouse**

Synaptic input and Ca2+ activity in zebrafish oligodendrocyte precursor cells contribute to myelin sheath formation.
Li J, Miramontes TG, Czopka T, Monk KR
Nature neuroscience (2024) 272: 219-231. . **IHC; tested species: zebrafish**

A zebrafish gephyrinb mutant distinguishes synaptic and enzymatic functions of Gephyrin.
Brennan EJ, Monk KR, Li J
Neural development (2024) 191: 14. . **IHC; tested species: zebrafish**

Presence of ethanol-sensitive and ethanol-insensitive glycine receptors in the ventral tegmental area and prefrontal cortex in mice.
Araya A, Gallegos S, Viveros R, San Martin L, Muñoz B, Harvey RJ, Zeilhofer HU, Aguayo LG
British journal of pharmacology (2021) 17823: 4691-4707. . **WB; tested species: mouse**

Contribution of GlyR α3 Subunits to the Sensitivity and Effect of Ethanol in the Nucleus Accumbens.
San Martin LS, Armijo-Weingart L, Araya A, Yévenes GE, Harvey RJ, Aguayo LG
Frontiers in molecular neuroscience (2021) 14: 756607. . **WB; tested species: mouse**

Selected General References

Expression of glycine receptor alpha subunits and gephyrin in cultured spinal neurons.
Bechade C et al. Eur. J. Neurosci. (1996) PubMed:8714713

The glycine receptor deficiency of the mutant mouse spastic: evidence for normal glycine receptor structure and localization.
Becker CM et al. J. Neurosci. (1986) PubMed:3012014

Identification of glycinergic synapses in the cochlear nucleus through immunocytochemical localization of the postsynaptic receptor.
Altschuler RA et al. Brain Res. (1986) PubMed:3008938

Distribution of glycine receptors at central synapses: an immunoelectron microscopy study.
Triller A et al. J. Cell Biol. (1985) PubMed:2991304

Access the online factsheet including applicable protocols at https://sysy.com/product/146008 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.