SYSY Antibodies

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Glycine receptor β

Cat.No. 146 211; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Albumin and azide were added for stabilization. For **reconstitution** add 100 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 recommended (see remarks) **IP**: not tested yet **ICC**: yes (see remarks) **IHC-P**: not recommended **IHC-Fr**: 1 : 500 up to 1 : 1000 (see remarks) **EM**: yes
Clone	299E7
Subtype	IgG1 (κ light chain)
Immunogen	Recombinant protein corresponding to AA 336 to 455 from rat Glycine receptor β (UniProt Id: P20781)
Reactivity	Reacts with: rat (P20781), mouse (P48168), monkey. Other species not tested yet.
Remarks	**WB**: Detection of overexpressed protein is possible. Endogenous levels are hardly detectable. **ICC**: Methanol fixation is recommended. **IHC-Fr**: Fixation for 10-15 min with cold 2 % PFA solution is recommended. Include 0,5 % triton X 100 in all blocking and antibody incubation steps.

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 146 211

Distribution of the glycine receptor β-subunit in the mouse CNS as revealed by a novel monoclonal antibody.
Weltzien F, Puller C, O'Sullivan GA, Paarmann I, Betz H
The Journal of comparative neurology (2012) 52017: 3962-81. . **ICC, IHC**

Spinal cord synaptic plasticity by GlyRβ release from receptor fields and syndapin I-dependent uptake.
Tröger J, Seemann E, Heintzmann R, Kessels MM, Qualmann B
The Journal of neuroscience : the official journal of the Society for Neuroscience (2022) 4235: 6706-23. . **ICC, EM; tested species: mouse**

Disruption of a Structurally Important Extracellular Element in the Glycine Receptor Leads to Decreased Synaptic Integration and Signaling Resulting in Severe Startle Disease.
Schaefer N, Berger A, van Brederode J, Zheng F, Zhang Y, Leacock S, Littau L, Jablonka S, Malhotra S, Topf M, Winter F, et al.
The Journal of neuroscience : the official journal of the Society for Neuroscience (2017) 3733: 7948-7961. . **WB; tested species: mouse**

Presence of ethanol-sensitive glycine receptors in medium spiny neurons in the mouse nucleus accumbens.
Förstera B, Muñoz B, Lobo MK, Chandra R, Lovinger DM, Aguayo LG
The Journal of physiology (2017) 59515: 5285-5300. . **IHC-P; tested species: mouse**

Novel Functional Properties of Missense Mutations in the Glycine Receptor β Subunit in Startle Disease.
Piro I, Eckes AL, Kasaragod VB, Sommer C, Harvey RJ, Schaefer N, Villmann C
Frontiers in molecular neuroscience (2021) 14: 745275. . **WB; tested species: mouse**

Selected General References

Expression of glycine receptor alpha subunits and gephyrin in cultured spinal neurons.
Bechade C, Colin I, Kirsch J, Betz H, Triller A
The European journal of neuroscience (1996) 82: 429-35. .

The glycine receptor deficiency of the mutant mouse spastic: evidence for normal glycine receptor structure and localization.
Becker CM, Hermans-Borgmeyer I, Schmitt B, Betz H
The Journal of neuroscience : the official journal of the Society for Neuroscience (1986) 65: 1358-64. .

Identification of glycinergic synapses in the cochlear nucleus through immunocytochemical localization of the postsynaptic receptor.
Altschuler RA, Betz H, Parakkal MH, Reeks KA, Wenthold RJ
Brain research (1986) 3691-2: 316-20. .

Distribution of glycine receptors at central synapses: an immunoelectron microscopy study.
Triller A, Cluzeaud F, Pfeiffer F, Betz H, Korn H
The Journal of cell biology (1985) 1012: 683-8. .

Purification and characterization of the glycine receptor of pig spinal cord.
Graham D, Pfeiffer F, Simler R, Betz H
Biochemistry (1985) 244: 990-4. .

Access the online factsheet including applicable protocols at https://sysy.com/product/146211 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.