SYSY Antibodies

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GRIP

Cat.No. 151 003; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin was 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 : 100 up to 1 : 1000 (AP staining) **IP**: not tested yet **ICC**: 1 : 100 **IHC**: not tested yet **IHC-P (FFPE)**: not tested yet
Immunogen	Recombinant protein corresponding to AA 662 to 769 from rat GRIP (UniProt Id: P97879)
Reactivity	Reacts with: human (Q9Y3R0), rat (P97879), mouse (Q925T6), hamster. Other species not tested yet.
Specificity	Recognizes GRIP 1 and GRIP 2.
Matching control	151-0P

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

Background

The **g**lutamate **r**eceptor **i**nteracting **p**rotein **GRIP** is a post-synaptic scaffolding protein consisting of seven PDZ domains. It has been shown to interact with a diverse array of proteins like several AMPA receptors, HAP1-A, liprin-α and LAR receptor protein tyrosine phosphatases (LAR-RPTPs). GRIP is also involved in the synaptic targeting of AMPA receptors.

Selected References for 151 003

Synaptotagmin-3 drives AMPA receptor endocytosis, depression of synapse strength, and forgetting.
Awasthi A, Ramachandran B, Ahmed S, Benito E, Shinoda Y, Nitzan N, Heukamp A, Rannio S, Martens H, Barth J, Burk K, et al.
Science (New York, N.Y.) (2018) : . . **WB; tested species: rat**

Prenatal ethanol exposure impairs hippocampal plasticity and cognition in adolescent mice.
Curti L, Rizzi B, Mottarlini F, Bigagli E, Ilari A, Costa A, Sordi V, Ranieri G, Luceri C, Cannella N, Ubaldi M, et al.
Progress in neuro-psychopharmacology & biological psychiatry (2025) 136: 111174. . **WB; tested species: mouse**

Expression of synaptic proteins and development of dendritic spines in fetal and postnatal neocortex of the pig, the European wild boar Sus scrofa.
Sobierajski E, Czubay K, Schmidt MR, Wiedenski S, Rettschlag S, Beemelmans C, Beemelmans C, Wahle P
Brain structure & function (2025) 2302: 38. . **WB; tested species: pig**

Dysregulation of AMPA Receptor Trafficking and Intracellular Vesicular Sorting in the Prefrontal Cortex of Dopamine Transporter Knock-Out Rats.
Targa G, Mottarlini F, Rizzi B, Leo D, Caffino L, Fumagalli F
Biomolecules (2023) 133: . . **WB; tested species: rat**

Activity-Based Anorexia Dynamically Dysregulates the Glutamatergic Synapse in the Nucleus Accumbens of Female Adolescent Rats.
Mottarlini F, Bottan G, Tarenzi B, Colciago A, Fumagalli F, Caffino L
Nutrients (2020) 1212: . . **WB; tested species: rat**

Selected General References

The proteoglycan NG2 is complexed with alpha-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid (AMPA) receptors by the PDZ glutamate receptor interaction protein (GRIP) in glial progenitor cells. Implications for glial-neuronal signaling.
Stegmüller J et al. J. Biol. Chem. (2003) PubMed:12458226

The PDZ proteins PICK1, GRIP, and syntenin bind multiple glutamate receptor subtypes. Analysis of PDZ binding motifs.
Hirbec H et al. J. Biol. Chem. (2002) PubMed:11891216

Evidence that GRIP, a PDZ-domain protein which is expressed in the embryonic forebrain, co-activates transcription with DLX homeodomain proteins.
Yu G et al. Brain Res. Dev. Brain Res. (2001) PubMed:11675124

EphrinB ligands recruit GRIP family PDZ adaptor proteins into raft membrane microdomains.
Brückner K et al. Neuron (1999) PubMed:10197531

GRIP: a synaptic PDZ domain-containing protein that interacts with AMPA receptors.
Dong H et al. Nature (1997) PubMed:9069286

Access the online factsheet including applicable protocols at https://sysy.com/product/151003 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.