SYSY Antibodies

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Shank1

Cat.No. 162 106; Polyclonal chicken antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin and azide 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 : 1000 up to 1 : 5000 **IP**: not tested yet **ICC**: 1 : 1000 **IHC**: not tested yet **IHC-P**: not tested yet **IHC-Fr**: 1 : 500 **ExM**: external data (see remarks)
Immunogen	Recombinant protein corresponding to residues near the carboxy terminus of rat Shank1 (UniProt Id: Q9WV48)
Reactivity	Reacts with: rat (Q9WV48), mouse (D3YZU1). Other species not tested yet.
Specificity	Specific for Shank 1 with weak cross-reactivity to Shank 2 and Shank 3.
Remarks	**IHC-Fr**: The following fixatives are possible: acetone, 4% formaldehyde/PFA Methanol fixation is not advised. **ExM**: This antibody has been successfully used for the magnified analysis of the proteome (MAP) expansion microscopy method (MAP; Ku et al. 2016. Nature Biotechnology 34:973-981)

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

Background

Shank1, 2 and 3 are major proteins of the postsynaptic density (PSD). They are composed of several protein-protein interaction domains like PDZ-, homer- and ABP1-binding domains which allow them to crosslink ionotopic and metabotropic glutamate receptor complexes with each other and to the actin-cytoskeleton.

Selected References for 162 106

Mapping proteomic composition of excitatory postsynaptic sites in the cerebellar cortex.
Robinson K, Delhaye M, Craig AM
Frontiers in molecular neuroscience (2024) 17: 1381534. . **EXM; tested species: mouse**

Selected General References

Key role of the postsynaptic density scaffold proteins Shank and Homer in the functional architecture of Ca2+ homeostasis at dendritic spines in hippocampal neurons.
Sala C et al. J. Neurosci. (2005) PubMed:15872106

Shank expression is sufficient to induce functional dendritic spine synapses in aspiny neurons.
Roussignol G et al. J. Neurosci. (2005) PubMed:15814786

Postsynaptic shank antagonizes dendrite branching induced by the leucine-rich repeat protein Densin-180.
Quitsch A et al. J. Neurosci. (2005) PubMed:15647492

Linkage of the actin cytoskeleton to the postsynaptic density via direct interactions of Abp1 with the ProSAP/Shank family.
Qualmann B et al. J. Neurosci. (2004) PubMed:15014124

Crystal structure of the Shank PDZ-ligand complex reveals a class I PDZ interaction and a novel PDZ-PDZ dimerization.
Im YJ et al. J. Biol. Chem. (2003) PubMed:12954649

ProSAP/Shank proteins - a family of higher order organizing molecules of the postsynaptic density with an emerging role in human neurological disease.
Boeckers TM et al. J. Neurochem. (2002) PubMed:12065602

Regulation of dendritic spine morphology and synaptic function by Shank and Homer.
Sala C et al. Neuron (2001) PubMed:11498055

The G protein-coupled receptor CL1 interacts directly with proteins of the Shank family.
Tobaben S et al. J. Biol. Chem. (2000) PubMed:10958799

The Shank family of scaffold proteins.
Sheng M et al. J. Cell. Sci. (2000) PubMed:10806096

Shank, a novel family of postsynaptic density proteins that binds to the NMDA receptor/PSD-95/GKAP complex and cortactin.
Naisbitt S et al. Neuron (1999) PubMed:10433268

Access the online factsheet including applicable protocols at https://sysy.com/product/162106 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.