SYSY Antibodies

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Myosin-11

Cat.No. 486 003; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. 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 up to 1 : 4000 (AP staining) **ICC**: not tested yet **IHC**: 1 : 500 up to 1 : 1000 (see remarks) **IHC-P**: 1 : 1000 up to 1 : 2000 **IHC-Fr**: 1 : 2000 (see remarks) **IHC-G**: 1 : 500 up to 1 : 1000 (see remarks)
Immunogen	Recombinant protein corresponding to residues near the carboxy terminus from mouse Myosin-11. (UniProt Id: O08638)
Reactivity	Reacts with: human (P35749), mouse (O08638), rat (Q63862). Other species not tested yet.
Specificity	Specific for Myosin-11, detect only isoform1.
Remarks	**IHC**: Antigen retrieval with Tris-EDTA buffer pH 9 is required. Antigen retrieval with citrate buffer pH 6 is not advised. **IHC-Fr**: Methanol fixation is recommended. **IHC-G**: 9% glyoxal fixation is recommended.

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

Background

Myosin-11 also called smooth muscle myosin heavy chain or SMMHC is a myosin expressed in smooth muscle that functions as a primary contractile protein. Myosin-11 is a common myoepithelial marker in immunohistochemistry, showing cytoplasmic and membranous positivity in myoepithelial and smooth muscle cells. It tends to provide more sensitive results with less myofibroblast cross-reactivity when compared to biomarkers like calponin and smooth muscle actin (1). Four Myosin-11 isoforms exist as a result of alternative splicing of the mRNA product of a single gene (2- 5).

Selected General References

Significance of immunohistochemistry in breast cancer.
Zaha DC et al. World J Clin Oncol (2014) PubMed:25114853

Regulation of force in vascular smooth muscle.
Ogut O et al. J Mol Cell Cardiol (2003) PubMed:12689814

Smooth muscle myosin heavy chain isoforms and their role in muscle physiology.
Babu GJ et al. Microsc Res Tech (2000) PubMed:10998642

Lung smooth muscle differentiation.
Low RB et al. Int J Biochem Cell Biol (1998) PubMed:9744079

Myosin heavy chain isoforms in smooth muscle.
Loukianov E et al. Comp Biochem Physiol B Biochem Mol Biol (1997) PubMed:9180010

Access the online factsheet including applicable protocols at https://sysy.com/product/486003 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.