

Myobrevin (Vamp5)

Cat.No. 176 003; 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 ₂ O 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 (AP staining) IP: not tested yet ICC: 1 : 1000 IHC: yes IHC-P: 1 : 200
Immunogen	Recombinant protein corresponding to AA 1 to 70 from mouse Myobrevin (UniProt Id: Q9Z2P8)
Reactivity	Reacts with: mouse (Q9Z2P8). No signal: rat. Other species not tested yet.
Specificity	K.O. validated PubMed: 29330887
Matching control	176-0P

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

Background

Myobrevin, also known as **VAMP 5** belongs to the family of vesicle-associated membrane proteins and has a theoretical molecular weight of 11.4 kDa. Like other VAMP isoforms it is composed of an N-terminal cytoplasmic region and a C-terminal transmembrane domain.

Vamp 5 is preferentially expressed in skeletal muscle and heart tissue and is upregulated during the differentiation of C2C12 cells into myotubes.

Selected References for 176 003

The localization of VAMP5 in skeletal and cardiac muscle.

Takahashi M, Tajika Y, Khairani AF, Ueno H, Murakami T, Yorifuji H
Histochemistry and cell biology (2013) 1394: 573-82. . **WB, IHC**

Vesicular transport system in myotubes: ultrastructural study and signposting with vesicle-associated membrane proteins.
Tajika Y, Takahashi M, Khairani AF, Ueno H, Murakami T, Yorifuji H
Histochemistry and cell biology (2014) 1414: 441-54. . **WB, ICC; tested species: mouse**

Loss of VAMP5 in mice results in duplication of the ureter and insufficient expansion of the lung.

Ikezawa M, Tajika Y, Ueno H, Murakami T, Inoue N, Yorifuji H
Developmental dynamics : an official publication of the American Association of Anatomists (2018) : . . **WB, IHC; KO verified; tested species: mouse**

Lysosomal exocytosis releases pathogenic α-synuclein species from neurons in synucleinopathy models.

Xie YX, Naseri NN, Fels J, Kharel P, Na Y, Lane D, Burré J, Sharma M
Nature communications (2022) 131: 4918. . **WB; tested species: mouse**

SNAP23 deficiency causes severe brain dysplasia through the loss of radial glial cell polarity.

Kunii M, Noguchi Y, Yoshimura SI, Kanda S, Iwano T, Avriyanti E, Atik N, Sato T, Sato K, Ogawa M, Harada A, et al.
The Journal of cell biology (2021) 2201: . . **ICC; KD verified; tested species: mouse**

Characterisation of GLUT4 trafficking in HeLa cells: comparable kinetics and orthologous trafficking mechanisms to 3T3-L1 adipocytes.

Morris S, Geoghegan ND, Sadler JBA, Koester AM, Black HL, Laub M, Miller L, Heffernan L, Simpson JC, Mastick CC, Cooper J, et al.
PeerJ (2020) 8: e8751. . **WB; tested species: mouse**

Cardiac SNARE Expression in Health and Disease.

Bowman PRT, Smith GL, Gould GW
Frontiers in endocrinology (2019) 10: 881. . **WB; tested species: mouse**

Characterization of VAMP isoforms in 3T3-L1 adipocytes: implications for GLUT4 trafficking.

Sadler JB, Bryant NJ, Gould GW
Molecular biology of the cell (2015) 263: 530-6. . **WB**

Effects of contraction on localization of GLUT4 and v-SNARE isoforms in rat skeletal muscle.

Rose AJ, Jeppesen J, Kiens B, Richter EA
American journal of physiology. Regulatory, integrative and comparative physiology (2009) 2975: R1228-37. . **WB**

Selected General References

VAMP5 and VAMP8 are most likely not involved in primary open-angle glaucoma.

Brinkman JF et al. Mol. Vis. (2005) PubMed:16110299

The cytoplasmic domain of Vamp4 and Vamp5 is responsible for their correct subcellular targeting: the N-terminal extension of VAMP4 contains a dominant autonomous targeting signal for the trans-Golgi network.

Zeng Q et al. J. Biol. Chem. (2003) PubMed:12682051

A novel synaptobrevin/VAMP homologous protein (VAMP5) is increased during in vitro myogenesis and present in the plasma membrane.

Zeng Q et al. Mol. Biol. Cell (1998) PubMed:9725904

Access the online factsheet including applicable protocols at <https://sysy.com/product/176003> 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.