SYSY Antibodies

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von Willebrand factor (vWF)

Cat.No. 527 005; Polyclonal Guinea pig 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**: not recommended (see remarks) **IP**: not tested yet **ICC**: 1 : 500 up to 1 : 1000 (see remarks) **IHC**: 1 : 500 up to 1 : 2000 (see remarks) **IHC-P (FFPE)**: not recommended **IHC-Fr**: 1 : 1000 (see remarks) **IHC-G**: 1 : 1000 (see remarks)
Immunogen	Recombinant protein corresponding to residues near the carboxy terminus of mouse von Willebrand factor (UniProt Id: Q8CIZ8)
Reactivity	Reacts with: mouse (Q8CIZ8), rat (A0A8J8XVZ5). Other species not tested yet.
Specificity	Does not recognize von Willebrand antigen 2
Remarks	**WB**: Cat. no. 527 015 is recommended for this application. **ICC**: Methanol fixation is recommended. **IHC**: Antigen retrieval with citrate buffer pH 6 is required. Antigen retrieval with pepsin is not advised. **IHC-Fr**: The following fixatives are possible: acetone, methanol-acetone, 4% formaldehyde/PFA. **IHC-G**: 3% glyoxal fixation is recommended.

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

Background

von Willebrand factor (vWF) is a key glycoprotein primarily expressed in endothelial cells and stored in Weibel-Palade bodies, playing a vital role in hemostasis and vascular biology (1). It is also present in platelets and the subendothelial matrix, contributing to thrombosis and inflammation (2). vWF expression is heterogeneous in different tissues, for example, in the kidney, its expression varies among glomerular endothelial cells, affecting susceptibility to complement-mediated injury in atypical hemolytic uremic syndrome (aHUS) (2). In the brain, vWF is abundant in endothelial cells and contributes to blood-brain barrier regulation, affecting permeability under hypoxia and seizures (3). Disease associations include von Willebrand disease (vWD), thrombotic thrombocytopenic purpura (TTP), and cardiovascular disorders. In vWD, impaired vWF leads to bleeding tendencies, while excessive vWF activity in TTP causes microvascular thrombosis (2). Additionally, vWF modulates angiogenesis by regulating endothelial cell proliferation and migration (1).

Selected General References

Endothelial von Willebrand factor regulates angiogenesis.
Starke RD et al. Blood (2011) PubMed:21048155

Von Willebrand factor regulates complement on endothelial cells.
Noone DG et al. Kidney Int (2016) PubMed:27236750

Endothelial Von Willebrand factor promotes blood-brain barrier flexibility and provides protection from hypoxia and seizures in mice.
Suidan GL et al. Arterioscler Thromb Vasc Biol (2013) PubMed:23825365

Access the online factsheet including applicable protocols at https://sysy.com/product/527005 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.