SYSY | HistoSure

Rudolf-Wissell-Str. 28a
37079 Göttingen, Germany
Phone: +49 551-50556-0
Fax: +49 551-50556-384
E-mail: sales@sysy.com
Web: sysy-histosure.com

# Vimentin

**Cat.No. HS-172 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)**

## Data Sheet

| | |
|---|---|
| Reconstitution/ Storage | 100 µg purified IgG, lyophilized. Albumin and azide were added for stabilization.<br>For **reconstitution** add 100 µl $H_2O$ to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C to -80°C until use.<br>Antibodies should be stored at +4°C when still lyophilized. Do not freeze!<br>For detailed information, see back of the data sheet. |
| Applications | **WB**: 1 : 1000 (AP staining)<br>**IP**: not tested yet<br>**ICC**: 1 : 500<br>**IHC**: 1 : 500<br>**IHC-P (FFPE)**: 1 : 1000 |
| Clone | V9 |
| Subtype | IgG1 (κ light chain) |
| Immunogen | Full-length pig Vimentin recombinant protein (UniProt Id: P02543) |
| Reactivity | Reacts with: human (P08670), rat (P31000).<br>No signal: mouse (P20152).<br>Other species not tested yet. |

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

## Background

**Vimentin** belongs to the family of intermediate filaments that can be subdivided into six major groups based on sequence similarity. Vimentin belongs to the type III category and is the predominant subunit protein of intermediate filaments in tissues of mesenchymal origin.
Like other intermediate filaments it plays a role in the cytoskeletal organization and maintenance of cell shape and morphology.

## Selected References for HS-172 011

Coexpression of keratin and vimentin in damaged and regenerating tubular epithelia of the kidney.
Gröne HJ, Weber K, Gröne E, Helmchen U, Osborn M
The American journal of pathology (1987) 1291: 1-8. . **IHC, EM; tested species: human**

Vimentin is preferentially expressed in high-grade ductal and medullary, but not in lobular breast carcinomas.
Domagala W, Woźniak L, Lasota J, Weber K, Osborn M
The American journal of pathology (1990) 1375: 1059-64. . **IHC-P; tested species: human**

Angiotensin II stimulates vimentin phosphorylation via a Ca2+-dependent, protein kinase C-independent mechanism in cultured vascular smooth muscle cells.
Tsuda T, Griendling KK, Alexander RW
The Journal of biological chemistry (1988) 26336: 19758-63. . **WB; tested species: rat**

Precise epitope determination of the anti-vimentin monoclonal antibody V9.
Tomiyama L, Kamino H, Fukamachi H, Urano T
Molecular medicine reports (2017) 164: 3917-3921. . **WB; tested species: human,mouse**

Vimentin expression appears to be associated with poor prognosis in node-negative ductal NOS breast carcinomas.
Domagala W, Lasota J, Dukowicz A, Markiewski M, Striker G, Weber K, Osborn M
The American journal of pathology (1990) 1376: 1299-304. . **IHC-P; tested species: human**

Coexpression of cytokeratins and vimentin in common epithelial tumours of the ovary: an immunocytochemical study of eighty-three cases.
Viale G, Gambacorta M, Dell'Orto P, Coggi G
Virchows Archiv. A, Pathological anatomy and histopathology (1988) 4132: 91-101. . **IHC-P; tested species: human**

Ubiquitin and microtubule-associated protein tau immunoreactivity each define distinct structures with differing distributions and solubility properties in Alzheimer brain.
Shaw G, Chau V
Proceedings of the National Academy of Sciences of the United States of America (1988) 858: 2854-8. . **IHC; tested species: human**

Evidence for a hepatocellular lineage in a combined hepatocellular-cholangiocarcinoma of transitional type.
Fisher HP, Doppl W, Osborn M, Altmannsberger M
Virchows Archiv. B, Cell pathology including molecular pathology (1988) 562: 71-6. . **IHC; tested species: human**

Alveolar soft part sarcoma. An immunohistochemical, cytologic and electron-microscopic study and a quantitative DNA analysis.
Persson S, Willems JS, Kindblom LG, Angervall L
Virchows Archiv. A, Pathological anatomy and histopathology (1988) 4126: 499-513. . **IHC-P; tested species: human**

## Selected General References

Architecture of the vimentin cytoskeleton is modified by perturbation of the GTPase ARF1.
Styers ML et al. J. Cell. Sci. (2006) PubMed:16912072

A direct interaction between actin and vimentin filaments mediated by the tail domain of vimentin.
Esue O et al. J. Biol. Chem. (2006) PubMed:16901892

Ultrastructure of intermediate filaments of nestin- and vimentin-immunoreactive astrocytes in organotypic slice cultures of hippocampus.
Miyaguchi K et al. J. Struct. Biol. (1997) PubMed:9356292

Access the online factsheet including applicable protocols at https://sysy-histosure.com/product/HS-172011 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.