SYSY Antibodies

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Collagen type IV

Cat.No. 462 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For **reconstitution** add 100 µl H_2O, then aliquot and store at -20°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 (AP staining) **IP**: yes **ICC**: not tested yet **IHC**: 1 : 250 up to 1 : 1000 (see remarks) **IHC-P (FFPE)**: 1 : 500 up to 1 : 100 (see remarks) **IHC-Fr**: 1 : 500 up to 1 : 1000 (see remarks) **IHC-G**: 1 : 500 up to 1 : 1000 (see remarks)
Immunogen	human heterotrimeric Collagen type IV containing two α 1-like (UniProt Id: P02462) and one α 2-like (UniProt Id: P08572) chains.
Reactivity	Reacts with: mouse (P02463), rat (F1MA59), human (P02462), human (P08572), mouse (P08122), rat (F1M6Q3). Other species not tested yet.
Remarks	**IHC**: Antigen retrieval with pepsin is required. **IHC-P (FFPE)**: Antigen retrieval with Tris-EDTA buffer pH 9, followed by pepsin treatment, is required for chromogenic detection. **IHC-Fr**: 4% formaldehyde/PFA fixation is recommended. **IHC-G**: The following fixatives are possible: 3% glyoxal, 9% glyoxal.

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

Background

Type IV collagen is a unique member of the large collagen superfamily which in vertebrates comprises 28 different types. Unlike most collagens, type IV collagen occurs only in the basement membranes (BMs) and comprises up to six genetically distinct α-chains designated α1 (IV) to α6 (IV). Out of many potential combinations, the chains interact and assemble with a remarkable specificity to form only three distinct heterotrimers of α1α1α2, α3α4α5, and α5α5α6 (1). It has been shown that ablation of COL4 α 1/2 results in abnormal BM structure and embryonic lethality at E10.5–E11.5, although BM formation during early development is unaffected (2).

Selected References for 462 004

Spatial proteomic analysis in human Alzheimer's disease brains enables identification of microenvironment-dependent microglial cell states.
Sanchez-Molina P, Rosmus DD, Brownell D, Meral M, Gohlich C, Pratapa A, Peymanfar Y, Whitley A, Hou Y, Nikulina N, Bogachuk A, et al.
Nature neuroscience (2026) : . . **IHC-P; tested species: human**

Selected General References

Mammalian collagen IV.
Khoshnoodi J et al. Microsc Res Tech (2008) PubMed:18219669

Collagen IV is essential for basement membrane stability but dispensable for initiation of its assembly during early development.
Pöschl E et al. Development (2004) PubMed:14998921

Access the online factsheet including applicable protocols at https://sysy.com/product/462004 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.