SYSY Antibodies

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Ki67 mouse specific

Cat.No. 398 308; Recombinant Guinea pig antibody, 50 µg recombinant IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg purified recombinant IgG, lyophilized. 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 tested yet **IP**: not tested yet **ICC**: 1 : 1000 up to 1 : 2000 (see remarks) **IHC**: 1 : 2000 up to 1 : 5000 (see remarks) **IHC-P (FFPE)**: 1 : 1000
Clone	GP311H2
Subtype	IgG2 (κ light chain)
Immunogen	Synthetic peptide corresponding to residues surrounding AA 1240 of mouse Ki67 (UniProt Id: E9PVX6)
Reactivity	Reacts with: mouse (E9PVX6). No signal: human (P46013), rat (D4A0Y6). Other species not tested yet.
Remarks	This antibody is a chimeric antibody based on the monoclonal rat antibody clone 311H2. The constant regions of the heavy and light chains have been replaced by guinea pig specific sequences. Therefore, the antibody can be used with standard anti-guinea pig secondary reagents. The antibody has been expressed in mammalian cells. **ICC**: Methanol fixation is recommended. The following fixatives are possible: 4% formaldehyde/PFA. **IHC**: Antigen retrieval with citrate buffer pH 6 is required. **RUO**: For this product an additional Limited Use Label License (LULL) for internal Research Use Only (RUO) from Life Technologies Corporation applies. (See Website for details.)

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

Background

Ki-67 is a nuclear protein which is widely used as a marker of cell proliferation. Its expression is closely associated with the cell cycle: Ki-67 is present in actively cycling cells during the G1, S, G2, and M phases but is generally absent in quiescent cells in the G0 phase. At the cellular level, Ki-67 is predominantly localized in the nucleus during interphase and redistributes to the periphery of condensed chromosomes during mitosis (1,2).
Immunohistochemical staining for Ki-67 is a simple and reproducible method to determine the tumor proliferative index and is a predictive and prognostic biomarker in certain types of human cancer, such as breast cancer, gastric cancer or prostate cancer. In breast cancer higher Ki-67 levels have been associated with an increased risk of disease recurrence (1,3). However, Ki-67 expression is not specific to malignant cells, as it is also present in normally proliferating tissues and activated lymphocytes.

Selected General References

The Ki-67 protein: from the known and the unknown.
Scholzen T et al. J. Cell. Physiol. (2000) PubMed:10653597

Ki-67: more than a proliferation marker.
Sun X et al. Chromosoma (2018) PubMed:29322240

Ki-67 as prognostic marker in early breast cancer: a meta-analysis of published studies involving 12,155 patients.
de Azambuja E et al. Br J Cancer (2007) PubMed:17453008

Access the online factsheet including applicable protocols at https://sysy.com/product/398308 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.