SYSY Antibodies

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Galectin-3 human specific

Cat.No. HS-477 103; Polyclonal rabbit 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**: 1 : 1000 (AP-staining) **IP**: not tested yet **ICC**: 1 : 500 (see remarks) **IHC**: not tested yet **IHC-P (FFPE)**: 1 : 500 up to 1 : 1000 (see remarks) **IHC-Fr**: not tested yet
Immunogen	Synthetic peptide corresponding to residues near the amino terminus of human Galectin-3 (UniProt Id: P17931)
Reactivity	Reacts with: human (P17931). No signal: mouse (P16110). Other species not tested yet. Predicted to cross-react with monkey due to high sequence homology.
Remarks	**ICC**: 4% formaldehyde/PFA fixation is recommended. **IHC-P (FFPE)**: For chromogenic detection, an optimized AGR time of 30 minutes is recommended for best results. For fluorescent detection, an optimized AGR time of 30 minutes is recommended for best results.

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

Background

Galectin-3 (Gal-3, Mac-2) is a β-galactoside binding protein that is predominantly located in the cytoplasm and shuttles into the nucleus. In addition, it is secreted to the cell surface and into biological fluids. Depending on its localization, it exerts pleiotropic biological functions like cell growth, cell differentiation, inflammation, fibrogenesis, migration, apoptosis, and host defense (1). It is also involved in cancer pathogenesis, proliferation, and spreading of metastasis (2). Galectin-3 is highly expressed in the covering epithelia of the digestive tract and the urinary system (3) and plays important roles in the organization of renal and intestinal cells. Furthermore, Galectin-3 has been identified in a variety of other cell types including fibroblasts, keratinocytes, granulocytes, dendritic cells, and macrophages (2). Galectin-3 is expressed by certain tissue-resident macrophages such as Kupffer cells in the liver, red pulp macrophages in the spleen, and alveolar macrophages in the lung (3). In the brain, Galectin-3 is abundant in activated microglia but not expressed in resting cells. Following brain injury, Galectin-3 triggers anti-inflammatory properties of microglia (4). In Alzheimer's disease, Gal-3 expression is strictly associated with microglial cell activation around Aβ plaques. In stroke, Gal-3 was found to be expressed primarily in proinflammatory microglial cells (5).

Selected General References

Galectin-3 as a novel biomarker for disease diagnosis and a target for therapy (Review).
Dong R et al. Int J Mol Med (2018) PubMed:29207027

Galectin-3, a rising star in modulating microglia activation under conditions of neurodegeneration.
García-Revilla J et al. Cell Death Dis (2022) PubMed:35859075

Galectin-3: mediator of microglia responses in injured brain.
Rahimian R et al. Drug Discov Today (2018) PubMed:29133191

Expression and immunohistochemical localization of galectin-3 in various mouse tissues.
Kim H et al. Cell Biol Int (2007) PubMed:17222570

Galectin-3: an open-ended story.
Dumic J et al. Biochim Biophys Acta (2006) PubMed:16478649

Access the online factsheet including applicable protocols at https://sysy.com/product/HS-477103 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.