SYSY Antibodies

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Rab27A

Cat.No. 168 013; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin was 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**: yes **ICC**: not tested yet **IHC**: not tested yet **IHC-P (FFPE)**: 1 : 2000
Immunogen	Recombinant protein corresponding to AA 1 to 221 from rat Rab27A (UniProt Id: P23640)
Reactivity	Reacts with: rat (P23640), mouse (Q9ERI2), human (P51159). Other species not tested yet.
Specificity	Specific for rab 27A. No cross reactivity to rab 27B. K.O. validated PubMed: 25951179
Matching control	168-0P
Remarks	Only the non-conserved C-terminal part of the protein was used for affinity purification to achieve specificity.

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

Background

Rab27 proteins are members of the Rab protein family that belongs to the ras-related superfamily of small monomeric GTPases. These proteins play a crucial role in intracellular vesicle trafficking, particularly in the fusion of vesicles or organelles with their target membranes (1, 2). Two Rab27 isoforms, Rab**27A** and **27B**, have been described so far.
Mutations in the RAB27A gene have been shown to be responsible for the Griscelli syndrome characterized by pigment dilution of the hair and an uncontrolled T-lymphocyte and macrophage activation. This disorder is probably caused by a dysfunction of melanosomes in melanocytes and lytic granules in CD8+ cytotoxic T lymphocytes (CTLs) (3). Additionally, Rab27A is located on mature insulin granules of pancreatic β-cells highlighting its role in insulin secretion (4, 5). Moreover, Rab27A is expressed in the retinal pigment epithelium and choriocapillaris, suggesting a functional role in ocular physiology (6). In patients with Griscelli syndrome caused by missense mutations in RAB27A, Rab27B expression is upregulated, partially compensating for the loss of Rab27A function. Rab27B has been found to regulate amylase secretion in parotid acinar cells, further emphasizing its role in exocytosis (7, 8).
Furthermore, a study by (9) revealed that Rab27A plays a critical role in the processing of inflammatory pain in mice and demonstrated that Rab27A is highly expressed in sensory neurons and the superficial dorsal horn of the spinal cord. Further studies have expanded the functional scope of Rab27A, revealing its involvement in renal fibrosis through the regulation of exosome secretion (10).

Selected References for 168 013

Rab27A Is Present in Mouse Pancreatic Acinar Cells and Is Required for Digestive Enzyme Secretion.
Hou Y, Ernst SA, Stuenkel EL, Lentz SI, Williams JA
PloS one (2015) 105: e0125596. . **WB, IHC; KO verified**

UNC93B1 interacts with the calcium sensor STIM1 for efficient antigen cross-presentation in dendritic cells.
Maschalidi S, Nunes-Hasler P, Nascimento CR, Sallent I, Lannoy V, Garfa-Traore M, Cagnard N, Sepulveda FE, Vargas P, Lennon-Duménil AM, van Endert P, et al.
Nature communications (2017) 81: 1640. . **WB, DOTBLOT; tested species: mouse**

Potentiation of visualized exosomal miR-1306-3p from primary sensory neurons contributes to chronic visceral pain via spinal P2X3 receptors.
Sun Q, Weng RX, Li YC, Jia SM, Ma CT, Zhang HH, Tang Y, Li R, Xu GY
Pain (2025) 1669: 2054-2066. . **IHC; tested species: mouse**

Rab27a Contributes to the Processing of Inflammatory Pain in Mice.
Gross T, Wack G, Syhr KMJ, Tolmachova T, Seabra MC, Geisslinger G, Niederberger E, Schmidtko A, Kallenborn-Gerhardt W
Cells (2020) 96: . . **IHC; tested species: mouse**

Kinesin-1: A New Actor Involved in Platelet Secretion and Thrombus Stability.
Adam F, Kauskot A, Kurowska M, Goudin N, Munoz I, Bordet JC, Huang JD, Bryckaert M, Fischer A, Borgel D, de Saint Basile G, et al.
Arteriosclerosis, thrombosis, and vascular biology (2018) : . . **WB; tested species: mouse**

Genome-wide interrogation of extracellular vesicle biology using barcoded miRNAs.
Lu A, Wawro P, Morgens DW, Portela F, Bassik MC, Pfeffer SR
eLife (2018) 7: . . **WB; KD verified; tested species: human**

MLKL, the Protein that Mediates Necroptosis, Also Regulates Endosomal Trafficking and Extracellular Vesicle Generation.
Yoon S, Kovalenko A, Bogdanov K, Wallach D
Immunity (2017) 471: 51-65.e7. . **WB; KD verified; tested species: human**

Access the online factsheet including applicable protocols at https://sysy.com/product/168013 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.