SYSY Antibodies

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

Rab27B

Cat.No. 168 103; 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**: yes **ICC**: 1 : 500 **IHC**: 1 : 400 **IHC-P (FFPE)**: 1 : 200
Immunogen	Recombinant protein corresponding to AA 1 to 218 from human Rab27b (UniProt Id: O00194)
Reactivity	Reacts with: rat (Q99P74), mouse (Q99P58), human (O00194). Other species not tested yet.
Specificity	Specific for rab 27B with weak cross reaction to rab 27A. K.O. validated PubMed: 26845357
Matching control	168-1P

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

Background

Rab 27 proteins are members of the Rab protein family that belongs to the ras-related superfamily of small monomeric GTPases. These proteins are involved in intracellular fusion reactions of vesicles or organelles with their target membranes. Two Rab 27 isoforms, Rab **27A** and **27B**, have been described so far.
Mutations in the Rab 27A 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 due to the dysfunction of melanosomes in melanocytes and lytic granules in CTLs. Additionally Rab 27A is located on mature insulin granules of pancreatic β-cells and is expressed in the pigment epithelium and choriocapillaris of the retina.
In patients who suffer from Griscelli syndrome because of missense mutations in the Rab 27A gene, Rab 27B is upregulated and partially compensates for Rab 27A dysfunction. Rab 27B also regulates amylase secretion in parotid acinar cells.
Recently it has been shown that Rab 27 is also involved in synaptic transmission in C. elegans.

Selected References for 168 103

Quantitative analysis of synaptic vesicle Rabs uncovers distinct yet overlapping roles for Rab3a and Rab27b in Ca2+-triggered exocytosis.
Pavlos NJ, Grønborg M, Riedel D, Chua JJ, Boyken J, Kloepper TH, Urlaub H, Rizzoli SO, Jahn R
The Journal of neuroscience : the official journal of the Society for Neuroscience (2010) 3040: 13441-53. . **WB, ICC**

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**

Actions of Rab27B-GTPase on mammalian central excitatory synaptic transmission.
Arias-Hervert ER, Xu N, Njus M, Murphy GG, Hou Y, Williams JA, Lentz SI, Ernst SA, Stuenkel EL
Physiological reports (2020) 89: e14428. . **WB, IHC; KO verified; tested species: mouse**

zDHHC9 Regulates Cardiomyocyte Rab3a Activity and Atrial Natriuretic Peptide Secretion Through Palmitoylation of Rab3gap1.
Essandoh K, Subramani A, Ferro OA, Teuber JP, Koripella S, Brody MJ
JACC. Basic to translational science (2023) 85: 518-542. . **WB; tested species: mouse**

A novel association between platelet filamin A and soluble N-ethylmaleimide sensitive factor attachment proteins regulates granule secretion.
Golla K, Paul M, Lengyell TC, Simpson EM, Falet H, Kim H
Research and practice in thrombosis and haemostasis (2023) 74: 100019. . **WB; tested species: mouse**

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**

Genetic deletion of Rab27B in pancreatic acinar cells affects granules size and has inhibitory effects on amylase secretion.
Hou Y, Ernst SA, Lentz SI, Williams JA
Biochemical and biophysical research communications (2016) 4714: 610-5. . **WB; KO verified**

Rab27b is Involved in Lysosomal Exocytosis and Proteolipid Protein Trafficking in Oligodendrocytes.
Shen YT, Gu Y, Su WF, Zhong JF, Jin ZH, Gu XS, Chen G
Neuroscience bulletin (2016) 324: 331-40. . **ICC**

EPI64B acts as a GTPase-activating protein for Rab27B in pancreatic acinar cells.
Hou Y, Chen X, Tolmachova T, Ernst SA, Williams JA
The Journal of biological chemistry (2013) 28827: 19548-57. . **WB**

Selected General References

Regulation of synaptic transmission by RAB-3 and RAB-27 in Caenorhabditis elegans.
Mahoney TR et al. Mol. Biol. Cell (2006) PubMed:16571673

Access the online factsheet including applicable protocols at https://sysy.com/product/168103 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.