SYSY Antibodies

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Rab7a

Cat.No. 320 003; 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**: not tested yet **ICC**: not tested yet **IHC**: not tested yet **IHC-P (FFPE)**: not tested yet
Immunogen	Synthetic peptide corresponding to AA 185 to 205 from mouse Rab7a (UniProt Id: P51150)
Reactivity	Reacts with: human (P51149), rat (P09527), mouse (P51150). Other species not tested yet.
Matching control	320-0P

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

Background

Rab 7 is a member of the Rab protein family that belongs to the ras-related superfamily of small monomeric GTPases. Rab 7 is ubiquitously expressed in different tissues where it controls membrane trafficking from early to late endosome and to lysosomes. Rab 7 is also involved in the maturation of phagosome and autophagic vacuoles.

Selected References for 320 003

Tubular microdomains of Rab7-positive endosomes retrieve TrkA, a mechanism disrupted in Charcot-Marie-Tooth disease 2B.
Markworth R, Dambeck V, Steinbeck LM, Koufali A, Bues B, Dankovich TM, Wichmann C, Burk K
Journal of cell science (2021) 13420: . . **WB, ICC; tested species: mouse**

Regulatory Function of Sympathetic Innervation on the Endo/Lysosomal Trafficking of Acetylcholine Receptor.
Straka T, Schröder C, Roos A, Kollipara L, Sickmann A, Williams MPI, Hafner M, Khan MM, Rudolf R
Frontiers in physiology (2021) 12: 626707. . **WB, IHC; tested species: mouse**

VAPB depletion alters neuritogenesis and phosphoinositide balance in motoneuron-like cells: relevance to VAPB-linked ALS.
Genevini P, Colombo MN, Venditti R, Marcuzzo S, Colombo SF, Bernasconi P, De Matteis MA, Borgese N, Navone F
Journal of cell science (2019) : . . **WB; tested species: mouse**

EndophilinAs regulate endosomal sorting of BDNF-TrkB to mediate survival signaling in hippocampal neurons.
Burk K, Murdoch JD, Freytag S, Koenig M, Bharat V, Markworth R, Burkhardt S, Fischer A, Dean C
Scientific reports (2017) 71: 2149. . **ICC; tested species: mouse**

Selected General References

Rab7 is functionally required for selective cargo sorting at the early endosome.
Girard E et al. Traffic (2014) PubMed:24329906

Rab7 regulates maturation of melanosomal matrix protein gp100/Pmel17/Silv.
Kawakami A et al. J. Invest. Dermatol. (2008) PubMed:17625594

Rab 7: an important regulator of late endocytic membrane traffic.
Feng Y et al. J. Cell Biol. (1995) PubMed:8522602

The rab7 GTPase resides on a vesicular compartment connected to lysosomes.
Méresse S et al. J. Cell. Sci. (1995) PubMed:8586647

Rab7 and Rab9 are recruited onto late endosomes by biochemically distinguishable processes.
Soldati T et al. J. Biol. Chem. (1995) PubMed:7592724

Access the online factsheet including applicable protocols at https://sysy.com/product/320003 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.