SYSY Antibodies

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Sec22b

Cat.No. 186 003; 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 up to 1 : 5000 (AP staining) **IP**: not tested yet **ICC**: 1 : 100 up to 1 : 500 **IHC**: not tested yet **IHC-P (FFPE)**: not tested yet **EM**: not tested yet
Immunogen	Recombinant protein corresponding to rat Sec22b lacking the membrane anchor. (UniProt Id: Q4KM74)
Reactivity	Reacts with: human (O75396), rat (Q4KM74), mouse (O08547), zebrafish. Other species not tested yet.
Specificity	K.O. validated PubMed: 36595686
Remarks	This antibody has been purified with a synthetic peptide corresponding to AA 87-100 from rat Sec22b.

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

Background

Distinct sets of SNARE proteins mediate membrane-membrane fusion events between different intracellular compartments. **Sec 22b** (ERS 24, rsec22b), a Sly2 homolog, is a R-SNARE and locates to the endoplasmatic reticulum (ER) and the Golgi apparatus. Together with syntaxin 5, membrin and Bet 1 it participates in traffic between the Golgi and the ER.

Selected References for 186 003

The host cell secretory pathway mediates the export of Leishmania virulence factors out of the parasitophorous vacuole.
Arango Duque G, Jardim A, Gagnon É, Fukuda M, Descoteaux A
PLoS pathogens (2019) 157: e1007982. . **WB, ICC, EM; KD verified; tested species: mouse**

Activity of the SNARE Protein SNAP29 at the Endoplasmic Reticulum and Golgi Apparatus.
Morelli E, Speranza EA, Pellegrino E, Beznoussenko GV, Carminati F, Garré M, Mironov AA, Onorati M, Vaccari T
Frontiers in cell and developmental biology (2021) 9: 637565. . **WB, IP, ICC; KD verified; tested species: human**

Sec22b Regulates Inflammatory Responses by Controlling the Nuclear Translocation of NF-κB and the Secretion of Inflammatory Mediators.
Arango Duque G, Dion R, Matte C, Fabié A, Descoteaux J, Stäger S, Descoteaux A
Journal of immunology (Baltimore, Md. : 1950) (2021) 2079: 2297-2309. . **WB, ICC, EM; KD verified; tested species: mouse**

Sec22b regulates phagosome maturation by promoting ORP8-mediated lipid exchange at endoplasmic reticulum-phagosome contact sites.
Criado Santos N, Bouvet S, Cruz Cobo M, Mandavit M, Bermont F, Castelbou C, Mansour F, Azam M, Giordano F, Nunes-Hasler P
Communications biology (2023) 61: 1008. . **WB, ICC; KD verified; tested species: mouse**

Sec22b determines Weibel-Palade body length by controlling anterograde ER-Golgi transport.
Karampini E, Bürgisser PE, Olins J, Mulder AA, Jost CR, Geerts D, Voorberg J, Bierings R
Haematologica (2020) : . . **WB, ICC; KD verified; tested species: human**

Sec22b regulates phagosomal maturation and antigen crosspresentation by dendritic cells.
Cebrian I, Visentin G, Blanchard N, Jouve M, Bobard A, Moita C, Enninga J, Moita LF, Amigorena S, Savina A
Cell (2011) 1476: 1355-68. . **WB, ICC; tested species: mouse**

Regulation of Cx36 trafficking through the early secretory pathway by COPII cargo receptors and Grasp55.
Tetenborg S, Ariakia F, Martinez-Soler E, Shihabeddin E, Lazart IC, Miller AC, O'Brien J
Cellular and molecular life sciences : CMLS (2024) 811: 431. . **ICC; tested species: human**

Migratory autolysosome disposal mitigates lysosome damage.
Sho T, Li Y, Jiao H, Yu L
The Journal of cell biology (2024) 22312: . . **WB; KO verified; tested species: mouse**

Sec22b is a critical and nonredundant regulator of plasma cell maintenance.
Bonaud A, Gargowitsch L, Gilbert SM, Rajan E, Canales-Herrerias P, Stockholm D, Rahman NF, Collins MO, Taskiran H, Hill DL, Alloatti A, et al.
Proceedings of the National Academy of Sciences of the United States of America (2023) 1202: e2213056120. . **WB; KO verified; tested species: mouse**

Lysosomal exocytosis releases pathogenic α-synuclein species from neurons in synucleinopathy models.
Xie YX, Naseri NN, Fels J, Kharel P, Na Y, Lane D, Burré J, Sharma M
Nature communications (2022) 131: 4918. . **WB; tested species: mouse**

Organelle tethering, pore formation and SNARE compensation in the late endocytic pathway.
Davis LJ, Bright NA, Edgar JR, Parkinson MDJ, Wartosch L, Mantell J, Peden AA, Luzio JP
Journal of cell science (2021) 13410: . . **WB; tested species: human**

TAP dysfunction in dendritic cells enables noncanonical cross-presentation for T cell priming.
Barbet G, Nair-Gupta P, Schotsaert M, Yeung ST, Moretti J, Seyffer F, Metreveli G, Gardner T, Choi A, Tortorella D, Tampé R, et al.
Nature immunology (2021) 224: 497-509. . **WB; KD verified; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/186003 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.