SYSY Antibodies

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Vti1b

Cat.No. 164 002; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For **reconstitution** add 200 µl H_2O, then aliquot and store at -20°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 : 1000 **IHC**: 1 : 200 **IHC-P (FFPE)**: 1 : 250
Immunogen	Recombinant protein corresponding to AA 1 to 206 from rat Vti1b (UniProt Id: P58200)
Reactivity	Reacts with: human (Q9UEU0), rat (P58200), mouse (O88384). No signal: zebrafish. Other species not tested yet.
Specificity	K.O. validated PubMed: 30335684
Matching control	164-0P

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

Background

Vti1b is a member of the SNARE family of proteins. It predominantly localizes to endosomal membranes, vesicles and tubules of the TGN. Vti1b is involved in the fusion of late endosomes and forms complexes with endobrevin, syntaxin 7 and syntaxin 8.

Selected References for 164 002

Syntaxin 11 binds Vti1b and regulates late endosome to lysosome fusion in macrophages.
Offenhäuser C, Lei N, Roy S, Collins BM, Stow JL, Murray RZ
Traffic (Copenhagen, Denmark) (2011) 126: 762-73. . **WB, IP, ICC**

Vti1b promotes TRPV1 sensitization during inflammatory pain.
Sondermann JR, Barry AM, Jahn O, Michel N, Abdelaziz R, Kügler S, Gomez-Varela D, Schmidt M
Pain (2019) 1602: 508-527. . **ICC, IHC; KO,KD verified; tested species: mouse**

Interorganelle Tethering to Endocytic Organelles Determines Directional Cytokine Transport in CD4+ T Cells.
Zhou Y, Zhao R, Schwarz EC, Akbar R, Kaba M, Pattu V, Helms V, Rieger H, Nunes-Hasler P, Qu B
Journal of immunology (Baltimore, Md. : 1950) (2020) : . . **WB, ICC; KD verified; tested species: human**

Lysosomal fusion and SNARE function are impaired by cholesterol accumulation in lysosomal storage disorders.
Fraldi A, Annunziata F, Lombardi A, Kaiser HJ, Medina DL, Spampanato C, Fedele AO, Polishchuk R, Sorrentino NC, Simons K, Ballabio A, et al.
The EMBO journal (2010) 2921: 3607-20. . **WB, ICC; tested species: mouse**

The double deficiency of the SNARE proteins vti1a and vti1b affects neurite outgrowth and signaling in N1E-115 neuroblastoma cells.
Kotschnew K, Winkler D, Reckmann J, Mann C, Schweigert A, Tellkamp G, Müller KM, Fischer von Mollard G
European journal of cell biology (2024) 1034: 151461. . **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**

Dysregulation of the AP2M1 phosphorylation cycle by LRRK2 impairs endocytosis and leads to dopaminergic neurodegeneration.
Liu Q, Bautista-Gomez J, Higgins DA, Yu J, Xiong Y
Science signaling (2021) 14693: . . **WB; tested species: mouse**

SPRED2 deficiency elicits cardiac arrhythmias and premature death via impaired autophagy.
Ullrich M, Aßmus B, Augustin AM, Häbich H, Abeßer M, Martin Machado J, Werner F, Erkens R, Arias-Loza AP, Umbenhauer S, Wagner H, et al.
Journal of molecular and cellular cardiology (2019) 129: 13-26. . **WB; tested species: mouse**

A trap mutant reveals the physiological client spectrum of TRC40.
Coy-Vergara J, Rivera-Monroy J, Urlaub H, Lenz C, Schwappach B
Journal of cell science (2019) 13213: . . **WB; tested species: human**

Oxidized phagosomal NOX2 complex is replenished from lysosomes.
Dingjan I, Linders PT, van den Bekerom L, Baranov MV, Halder P, Ter Beest M, van den Bogaart G
Journal of cell science (2017) 1307: 1285-1298. . **ICC; tested species: human**

Syntaxin 8 regulates platelet dense granule secretion, aggregation, and thrombus stability.
Golebiewska EM, Harper MT, Williams CM, Savage JS, Goggs R, Fischer von Mollard G, Poole AW
The Journal of biological chemistry (2015) 2903: 1536-45. . **WB**

Vti1a identifies a vesicle pool that preferentially recycles at rest and maintains spontaneous neurotransmission.
Ramirez DM, Khvotchev M, Trauterman B, Kavalali ET
Neuron (2012) 731: 121-34. . **WB; tested species: rat**

Access the online factsheet including applicable protocols at https://sysy.com/product/164002 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.