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**: 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 our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form 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. **They must not be stored in the freezer when still lyophilized!** Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C.

Monoclonal Antibodies

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Polyclonal Antibodies

- **Crude antisera**: With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies**: Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Fluorescence-labeled Antibodies

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All our purified antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein.
  For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.