

## VPS45

Cat.No. 137 002; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

### Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For <b>reconstitution</b> add 200 µl H <sub>2</sub> O, 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	<b>WB:</b> 1 : 1000 up to 1 : 5000 (AP staining) <b>IP:</b> not tested yet <b>ICC:</b> not tested yet <b>IHC:</b> not tested yet <b>IHC_P:</b> not tested yet
Immunogen	Recombinant protein corresponding to AA 1 to 570 from human VPS45 (UniProt Id: Q9NRW7)
Reactivity	Reacts with: human (Q9NRW7), rat (O08700), mouse (P97390). Other species not tested yet.

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

## Background

The vesicular transport protein **VPS 45** has first been discovered in yeast, and homologues were later found in mammals. This ubiquitously expressed protein belongs to the STxBP/Unc-18/Sec1 family. It is probably involved in vesicle-mediated protein trafficking from the Golgi stack through the trans-Golgi network. The highest expression levels are observed in brain and testis.

## Selected References for 137 002

Sorting of GLUT4 into its insulin-sensitive store requires the Sec1/Munc18 protein mVps45.  
Roccisana J, Sadler JB, Bryant NJ, Gould GW  
Molecular biology of the cell (2013) 2415: 2389-97. . **WB**

The Thr224Asn mutation in the VPS45 gene is associated with the congenital neutropenia and primary myelofibrosis of infancy.  
Stepensky P, Saada A, Cowan M, Tabib A, Fischer U, Berkun Y, Saleh H, Simanovsky N, Kogot-Levin A, Weintraub M, Ganaïem H, et al.  
Blood (2013) 12125: 5078-87. . **WB; tested species: human**

Detergent-free isolation and characterization of cholesterol-rich membrane domains from trans-Golgi network vesicles.  
Waugh MG, Chu KM, Clayton EL, Minogue S, Hsuan JJ  
Journal of lipid research (2011) 523: 582-9. . **WB**

Common and distinct roles for the binding partners Rabenosyn-5 and Vps45 in the regulation of endocytic trafficking in mammalian cells.  
Rahajeng J, Caplan S, Naslavsky N  
Experimental cell research (2010) 3165: 859-74. . **WB**

Molecular anatomy of a trafficking organelle.  
Takamori S, Holt M, Stenius K, Lemke EA, Grønborg M, Riedel D, Urlaub H, Schenck S, Brügger B, Ringler P, Müller SA, et al.  
Cell (2006) 1274: 831-46. . **WB**

Characterization of the role of the Rab GTPase-activating protein AS160 in insulin-regulated GLUT4 trafficking.  
Larance M, Ramm G, Stöckli J, van Dam EM, Winata S, Wasinger V, Simpson F, Graham M, Junutula JR, Guilhaus M, James DE, et al.  
The Journal of biological chemistry (2005) 28045: 37803-13. . **WB**

## Selected General References

How Tlg2p/syntaxin 16 'snares' Vps45.  
Dulubova I, Yamaguchi T, Gao Y, Min SW, Huryeva I, Südhof TC, Rizo J  
The EMBO journal (2002) 2114: 3620-31. .

Molecular cloning of a mammalian homologue of the yeast vesicular transport protein vps45.  
El-Husseini AE, Guthrie H, Snutch TP, Vincent SR  
Biochimica et biophysica acta (1997) 13251: 8-12. .

Mutations in the VPS45 gene, a SEC1 homologue, result in vacuolar protein sorting defects and accumulation of membrane vesicles.  
Cowles CR, Emr SD, Horazdovsky BF  
Journal of cell science (1994) 107 ( Pt 12): 3449-59. .

Access the online factsheet including applicable protocols  
at <https://sysy.com/product/137002> 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.