SYSY Antibodies

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VIP

Cat.No. 443 005; Polyclonal Guinea pig 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**: not tested yet **IP**: not tested yet **ICC**: 1 : 100 **IHC**: 1 : 500 **IHC-P (FFPE)**: 1 : 100
Immunogen	Synthetic peptide corresponding to the processed bioactive VIP neuropeptide cleaved from the mouse precursor (UniProt Id: P32648)
Reactivity	Reacts with: mouse (P32648), rat (P01283), human (P01282). Other species not tested yet.
Specificity	The antibody is specific for VIP. It may crossreact with the precursor protein, but does not recognize the related neuropeptide PACAP.

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

Background

VIP (**V**asoactive **i**ntestinal **p**eptide) is a 28 amino acid peptide hormone, a member of the secretin/glucagon superfamily, and evolutionarily well conserved. It is synthesized as part of a larger propeptide which is proteolytically processed to release bioactive VIP as well as two other neuropeptides.
VIP is expressed in gastrointestinal tissues and in the central and peripheral nervous system. It is released from neurons upon depolarization and is known to stimulate adenylyl cyclase.
In the brain, VIP acts as a neurotransmitter and is involved in rhythm generation in the suprachiasmatic nucleus, the regulation of neuroendocrine secretions in the hypothalamus and energy metabolism of glial cells.
Peripherally, VIP influences many functions including blood flow and cardiac output, smooth muscle activity, secretion in the digestive tract, gastric motility, bronchodilation and activity within the hypothalamic-pituitary-adrenal axis.
The Verner-Morrison or Watery Diarrhea Hypokalemia and Achlorhydria (WDHA) syndrome is a characteristic clinical syndrome associated with overproduction of VIP from endocrine tumors.

For more information on protein expression pattern, please refer to the overview image in our SYSY Antibodies ATLAS.

Selected References for 443 005

Generation of self-organized autonomic ganglion organoids from fibroblasts.
Liu S, Xiang K, Yuan F, Xiang M
iScience (2023) 263: 106241. . **ICC, IHC; tested species: mouse**

The prefrontal cortex controls memory organization in the hippocampus.
de Sousa AF, Zeidler ZE, Almeida-Filho DG, Shen Y, Luchetti A, Simanian S, Mardini M, DeNardo LA, Silva AJ
Nature neuroscience (2026) : . . **IHC; tested species: mouse**

Aberrant excitatory neuronal ERBB4 promotes Alzheimer's disease pathology.
Lee SY, Park E, Lee HE, Kim S, Yeo Y, Park J, Choi YJ, Lee K, Yoon KJ, Park S, Kim E, et al.
Nature (2026) 6588136: 725-735. . **IHC; tested species: mouse**

Mouse hippocampal CA1 VIP interneurons detect novelty in the environment and support recognition memory.
Tamboli S, Singh S, Topolnik D, El Amine Barkat M, Radhakrishnan R, Guet-McCreight A, Topolnik L
Cell reports (2024) 434: 114115. . **IHC; tested species: mouse**

INSIHGT: an accessible multi-scale, multi-modal 3D spatial biology platform.
Yau CN, Hung JTS, Campbell RAA, Wong TCY, Huang B, Wong BTY, Chow NKN, Zhang L, Tsoi EPL, Tan Y, Li JJX, et al.
Nature communications (2024) 151: 10888. . **IHC; tested species: mouse**

Ciliary neuropeptidergic signaling dynamically regulates excitatory synapses in postnatal neocortical pyramidal neurons.
Tereshko L, Gao Y, Cary BA, Turrigiano GG, Sengupta P
eLife (2021) 10: . . **ICC; tested species: rat**

Selected General References

Recent advances in vasoactive intestinal peptide physiology and pathophysiology: focus on the gastrointestinal system.
Iwasaki M et al. F1000Res (2019) PubMed:31559013

The effects of vasoactive intestinal peptide in neurodegenerative disorders.
Deng G et al. Neurol. Res. (2017) PubMed:27786097

Access the online factsheet including applicable protocols at https://sysy.com/product/443005 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.