SYSY Antibodies

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Vasopressin

Cat.No. 403 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For **reconstitution** add 100 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**: not tested yet **IP**: not tested yet **ICC**: not tested yet **IHC**: 1 : 500 up to 1 : 2000 **IHC-P (FFPE)**: 1 : 500
Immunogen	Synthetic peptide corresponding to AA 24 to 32 from mouse Vasopressin-neurophysin2-copeptin (UniProt Id: P35455)
Reactivity	Reacts with: mouse (P35455), rat (P01186). Other species not tested yet.
Specificity	The antibody recognizes Arginine-vasopressin. It may crossreact with the unprocessed precursor protein.

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

Background

Vasopressin, also referred to as arginine-vasopressin (**AVP**) or antidiuretic hormone (**ADH**), is a nine amino acid peptide hormone secreted from the posterior pituitary in response to reductions in plasma volume and increases in plasma osmolarity. It is proteolytically processed from a precursor protein that is mainly synthesized in neurons of the hypothalamus.
Along with its carrier protein, neurophysin 2, vasopressin is packaged into neurosecretory vesicles and transported axonally to the nerve endings in the neurohypophysis where it is either stored or secreted into the bloodstream. Its release increases the amount of solute-free water reabsorbed back into the circulation from the filtrate in the kidney tubules of the nephrons. Further, vasopressin causes vasoconstriction of peripheral vessels, which increases peripheral vascular resistance and raises arterial blood pressure.
Some vasopressin is also released directly into the brain and is involved in cognition, social behavior, sexual motivation, pair-bonding, and maternal behavior.
Mutations in the vasopressin gene cause autosomal dominant neurohypophyseal diabetes insipidus (ADNDI), which is characterised by persistant thirst, polydipsia and polyuria.

Selected References for 403 004

Effects of Salt Loading on the Organization of Microtubules in Rat Magnocellular Vasopressin Neurons.
Hicks AI, Barad Z, Sobrero A, Lean G, Jacob-Tomas S, Yang J, Choe KY, Prager-Khoutorsky M
Journal of neuroendocrinology (2019) : e12817. . **IHC; tested species: rat**

Significant expression of prosaposin in the intermediate lobe of mouse pituitary gland.
Fuyuki A, Higuchi M, Homma T, Kitamura K, Onouchi S, Saito S
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Hypothalamic prolactin receptor+ dopaminergic neurons regulate energy metabolism and nociceptive threshold in mice during lactation.
Chen N, Kumar S, Patel K, Li S, Wan M, Crane J, Cao X
Nature communications (2026) 171: . . **IHC; tested species: mouse**

A symmetric systemic challenge elicits a right-biased response mediated by vasopressin signaling.
Watanabe H, Kobikov Y, Mohamed SY, Rich K, Sarkisyan D, Nosova O, Grönbladh A, Hallberg M, Schouenborg J, Bakalkin G, Zhang M, et al.
Journal of neuroendocrinology (2026) 389: e70257. . **IHC; tested species: rat**

Microglia regulate neuronal activity via structural remodeling of astrocytes.
Gu N, Makashova O, Laporte C, Chen CQ, Li B, Chevillard PM, Lean G, Yang J, Wong C, Fan J, Sharif B, et al.
Neuron (2025) 11320: 3408-3423.e5. . **IHC; tested species: rat**

Prokineticin 2 neurons form diverse subpopulations in the suprachiasmatic nucleus and rely on VPAC2-signaling for diurnal rhythmicity.
Stangerup I, Georg B, Hannibal J
Frontiers in physiology (2025) 16: 1619673. . **IHC; tested species: mouse**

Long-range projections of oxytocin neurons in the marmoset brain.
Lefevre A, Meza J, Miller CT
Journal of neuroendocrinology (2024) : e13397. . **IHC; tested species: marmoset**

Sex differences in responses to aggressive encounters among California mice.
Kuske JX, Godoy AS, Ramirez AV, Trainor BC
Hormones and behavior (2024) 162: 105537. . **IHC; tested species: mouse**

PTSD Increases Risk for Hypertension Development Through PVN Activation and Vascular Dysfunction in Sprague Dawley Rats.
Chen X, Yan X, Yu C, Chen QH, Bi L, Shan Z
Antioxidants (Basel, Switzerland) (2024) 1311: . . **IHC; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/403004 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.