

## Vasopressin

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

### Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For <b>reconstitution</b> add 100 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> not tested yet <b>IP:</b> not tested yet <b>ICC:</b> not tested yet <b>IHC:</b> 1 : 500 <b>IHC-P:</b> 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 persistent 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**

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**

NaX channel is a physiological [Na<sup>+</sup>] detector in oxytocin and vasopressin releasing magnocellular neurosecretory cells of the rat supraoptic nucleus.  
Salgado-Mozo S, Thirouin ZS, Wyrosdic JC, García-Hernández U, Bourque CW  
The Journal of neuroscience : the official journal of the Society for Neuroscience (2023) : . . **IHC; tested species: rat**

Unique Organization of Actin Cytoskeleton in Magnocellular Vasopressin Neurons in Normal Conditions and in Response to Salt-Loading.  
Barad Z, Jacob-Tomas S, Sobrero A, Lean G, Hicks AI, Yang J, Choe KY, Prager-Khoutorsky M  
eNeuro () 72: . . **IHC; tested species: mouse**

## Selected General References

Neuromodulation by oxytocin and vasopressin in the central nervous system as a basis for their rapid behavioral effects.  
Stoop R et al. Curr. Opin. Neurobiol. (2014) PubMed:25463629

Oxytocin and vasopressin: social neuropeptides with complex neuromodulatory functions.  
Benarroch EE et al. Neurology (2013) PubMed:23589638

Vasopressin: behavioral roles of an "original" neuropeptide.  
Caldwell HK et al. Prog. Neurobiol. (2008) PubMed:18053631

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 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 at 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.