

## Oxytocin

Cat.No. 408 004; 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 up to 1 : 750
Immunogen	Synthetic peptide corresponding to AA 20 to 28 from mouse Oxytocin-neurophysin1 (UniProt Id: P35454)
Reactivity	Reacts with: mouse (P35454), rat (P01179). Other species not tested yet.
Specificity	The antibody recognizes Oxytocin. It may crossreact with the unprocessed precursor protein. K.O. validated PubMed: <a href="https://pubmed.ncbi.nlm.nih.gov/37164226/">37164226</a>

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

## Background

**Oxytocin** is a peptide hormone which is synthesized as an inactive precursor in nerve cell bodies in the supraoptic nucleus and paraventricular nucleus of the hypothalamus. The precursor protein is progressively hydrolyzed to produce oxytocin and its carrier protein neurophysin I. Together with neurophysin I, it 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. Oxytocin is also produced by some neurons of the hypothalamus that project to other parts of the brain and to the spinal cord. Oxytocin is best known for roles in female reproduction as its release causes smooth muscle contraction during parturition and lactation. It is also involved in cognition, tolerance, adaptation, and complex sexual and maternal behavior. Oxytocin is used as a medication to facilitate childbirth.

### Selected References for 408 004

Oxytocinergic neurons, but not oxytocin, are crucial for male penile erection.  
Wen YX, Fan LY, Yang AY, Zhang YC, Xu C, Wang ZH, Xie WJ, Lu Y, Zhang XY, Zhu JN, Sun A, et al.  
Neuropharmacology (2023) 235: 109576. . **IHC; KO verified; tested species: mouse**

Oxytocin neurons mediate the effect of social isolation via the VTA circuits.  
Musardo S, Contestabile A, Knoop M, Baud O, Bellone C  
eLife (2022) 11: . . **IHC; tested species: mouse**

### Selected General References

Oxytocin and vasopressin: linking pituitary neuropeptides and their receptors to social neurocircuits.  
Baribeau DA, Anagnostou E  
Frontiers in neuroscience (2015) 9: 335. .

Neuromodulation by oxytocin and vasopressin in the central nervous system as a basis for their rapid behavioral effects.  
Stoop R  
Current opinion in neurobiology (2014) 29: 187-93. .

Oxytocin modulates female sociosexual behavior through a specific class of prefrontal cortical interneurons.  
Nakajima M, Görlich A, Heintz N  
Cell (2014) 1592: 295-305. .

Oxytocin: the great facilitator of life.  
Lee HJ, Macbeth AH, Pagani JH, Young WS  
Progress in neurobiology (2009) 882: 127-51. .

Access the online factsheet including applicable protocols at <https://susy.com/product/408004> 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.