SYSY Antibodies

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Oxytocin

Cat.No. 408 004; 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 **IHC-P (FFPE)**: 1 : 500 up to 1 : 750
Immunogen	Synthetic peptide corresponding to the processed bioactive oxytocin peptide cleaved 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: 37164226

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**

FOXP1 is differentially active during development of murine vasopressin and oxytocin magnocellular neurons.
Berkhout JB, Trender S, Krabichler Q, Podpecan Y, Franke F, Schubert T, Burbach P, Grinevich V, Adan R, Fröhlich H, Althammer F, et al.
iScience (2026) 295: 115604. . **IHC; tested species: mouse**

Species Divergence in Oxytocin-Dependent Yawning on a Conserved Glutamatergic Erection Circuit.
Zhang YC, Zheng QW, Lu Y, Wang HY, Cang J, Wu XR, Fan LY, Li L, Zhang NN, Zhang XY, Zhu JN, et al.
Neuroscience bulletin (2026) : . . **IHC; tested species: rat**

The Hypothalamic Medial Preoptic Area-Paraventricular Nucleus Circuit Modulates Depressive-Like Behaviors in a Mouse Model of Postpartum Depression.
Fu P, Liu CP, Liu CY, Zhang YC, Xu JP, Mao RT, Ding XY, Li F, Zhang YL, Yang HL, Zhu JN, et al.
Research (Washington, D.C.) (2025) 8: 0701. . **IHC; tested species: mouse**

Oxytocin Improves Autistic Behaviors by Positively Shifting GABA Reversal Potential via NKCC1 in Early-Postnatal-Stage.
Wang ZH, Xu C, Ma YY, Xue WX, Wang HY, Fan LY, Zhang CY, Li L, Zhang XY, Zhu JN, Zhang QP, et al.
Advanced science (Weinheim, Baden-Wurttemberg, Germany) (2025) 1221: e2415432. . **IHC; 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 et al. Front Neurosci (2015) PubMed:26441508

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 modulates female sociosexual behavior through a specific class of prefrontal cortical interneurons.
Nakajima M et al. Cell (2014) PubMed:25303526

Oxytocin: the great facilitator of life.
Lee HJ et al. Prog. Neurobiol. (2009) PubMed:19482229

Access the online factsheet including applicable protocols at https://sysy.com/product/408004 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.