ZnT 3

Cat.No. 197 002; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

<table>
<thead>
<tr>
<th>Reconstitution/Storage</th>
<th>200 µl antiserum, lyophilized. For reconstitution add 200 µl H2O2, then aliquot and store at -20°C until use. For detailed information, see back of the data sheet.</th>
</tr>
</thead>
</table>
| Reagents               | **WB**: 1 : 1000 (AP staining)  
|                        | **IP**: yes  
|                        | **ICC**: yes  
|                        | **IHC**: 1 : 100 up to 1 : 500  
|                        | **IHC-P/FFPE**: 1 : 500  
|                        | **EM**: yes |
| Immunogen             | Recombinant protein corresponding to AA 2 to 75 from mouse ZnT3 (UniProt Id: P97441) |
| Reactivity            | Reacts with: human (Q99726), rat (Q6QIX3), mouse (P97441), chicken.  
|                       | No signal: zebrafish  
|                       | Other species not tested yet. |
| Specificity            | Specific for ZnT 3. |
| Matching control      | 197-0P |

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

Access the online factsheet including applicable protocols at https://sysy.com/product/197002 or scan the QR-code.

Selected References for 197 002

The zinc transporter ZNT3 co-localizes with insulin in INS-1E pancreatic beta cells and influences cell survival, insulin secretion capacity, and ZNT8 expression.

Smidt K, Larsen A, Branden A, Sørensen KS, Nielsen JV, Praetorius J, Martensens PM, Rumby J

**WB**, **ICC**, **EM**: tested species: rat

Assessment of ZnT3 and PSD95 protein levels in Lewy body dementias and Alzheimer's disease: association with cognitive impairment.


**IHC-P**: tested species: human

Abnormalities of granule cell dendritic structure are a prominent feature of the intrahippocampal kainic acid model of epilepsy despite reduced postinjury neurogenesis.

Murphy BL, Hofacer RD, Faulkner CN, Loepke AW, Danzer SC

**IHC**

Internal structure of the rat subiculum characterized by diverse immunoreactivities and septotemporal differences.

Ishihara Y, Fukuda T, Sato F

Neuroscience research (2019) . .  
**IHC**: tested species: rat

Dexamethasone ameliorates the damage of hippocampal filamentous actin cytoskeleton but is not sufficient to cease epileptogenesis in pilocarpine induced epileptic mice.

Yang N, Li YC, Xiong TQ, Chen LM, Zhai Y, Liang JM, Hao YP, Ma DH, Zhang YF

**IHC**: tested species: mouse

Contribution of early Alzheimer's Disease-related Pathophysiology to the Development of Acquired epilepsy.

Gschwind T, Lafourcade C, Gfeller T, Zaichuk M, Rambousek L, Knuesel I, Fritschy JM

**IHC**: tested species: mouse

Associations between ZnT3, tau pathology, aggregation, and delusions in dementia.

Whitefield DR, Francis PT, Ballard C, Williams G

**WB**: tested species: human

RNA Polymerase 1 is Transiently Regulated by Seizures and Plays a Role in a Pharmacological Kindling Model of Epilepsy.

Vashishta A, Slomnicki LP, Pietrzak M, Smith SC, Kolikonda M, Naik SP, Parlato R, Hetman M

Molecular neurobiology (2018) . .  
**IHC**: tested species: mouse

Characterising subtypes of hippocampal sclerosis and reorganization: correlation with pre and postoperative memory deficit.


Brain pathology (Zurich, Switzerland) (2017) . .  
**IHC-P**: tested species: human

Ablation of peri-in insult generated granule cells after epilepsy onset halts disease progression.

Hosford BE, Rowley S, Liska JP, Danzer SC

**IHC**: tested species: rat

Axonal plasticity of age-defined dentate granule cells in a rat model of mesial temporal lobe epilepsy.

Allhaus AI, Zhang H, Parent JM

**IHC**

Experimental febrile seizures induce age-dependent structural plasticity and improve memory in mice.

Tao K, Ichikawa J, Matsuki N, Ikegaya Y, Koyama R

Neuroscience (2016) 318: 34-44. .  
**IHC**

Background

The essential micronutrient zinc plays an important role in many biological processes like growth, development and reproduction. It is found in the active site of many enzymes, where ionization, polarization or replacement of Zn²⁺ bound water is involved in catalytic reactions. As a charged ion Zn²⁺ cannot cross biological membranes by simple diffusion and must be transported into or out of cells by specialized transport mechanisms. Four Zn transporter proteins, ZnT 1 to ZnT 4, have been cloned. All of them contain several transmembrane domains and a histidine rich intracellular loop. In the central nervous system Zn plays important roles in synaptic function and plasticity. At synapses Zn is stored in synaptic vesicles by a mechanism depending on the integral membrane protein ZnT 3.
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 10 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 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.