

## ZnT 3

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

### Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For reconstitution add 200 µl H <sub>2</sub> O, then aliquot and store at -20°C until use.
Applications	<b>WB:</b> 1 : 1000 (AP staining) <b>IP:</b> yes <b>ICC:</b> yes <b>IHC:</b> 1 : 100 up to 1 : 500 <b>IHC-P/FFPE:</b> 1 : 500
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-OP

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

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 Zn<sup>2+</sup> bound water is involved in catalytic reactions. As a charged ion Zn<sup>2+</sup> 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**.

### Selected References SYSY Antibodies

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

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Neurobiology of aging (2014) 35(12): 2836-2844. **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

Epilepsia (2012) 53(5): 908-21. **IHC**

Quantitative comparison of glutamatergic and GABAergic synaptic vesicles unveils selectivity for few proteins including MAL2, a novel synaptic vesicle protein.

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The Journal of neuroscience : the official journal of the Society for Neuroscience (2010) 30(1): 2-12. **WB**

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**

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

The European journal of neuroscience (2018) : **IHC; tested species: mouse**

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

Whitfield DR, Francis PT, Ballard C, Williams G

International journal of geriatric psychiatry (2018) : **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

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

Prada Jardim A, Liu J, Baber J, Michalak Z, Reeves C, Ellis M, Novy J, de Tisi J, McEvoy A, Miserocchi A, Targas Yacubian EM, et al.

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

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

Hosford BE, Rowley S, Liska JP, Danzer SC

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Ablation of Newly Generated Hippocampal Granule Cells Has Disease-Modifying Effects in Epilepsy.

Hosford BE, Liska JP, Danzer SC

The Journal of neuroscience : the official journal of the Society for Neuroscience (2016) 36(43): 11013-11023. **IHC; tested species: mouse**

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Althaus AL, Zhang H, Parent JM

Neurobiology of disease (2016) 86: 187-96. **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**

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Biometals : an international journal on the role of metal ions in biology, biochemistry, and medicine (2016) 29(2): 287-98. **WB**

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The American journal of geriatric psychiatry : official journal of the American Association for Geriatric Psychiatry (2015) 23(2): 141-8. **WB; tested species: human**

Expression pattern of synaptic vesicle protein 2 (SV2) isoforms in patients with temporal lobe epilepsy and hippocampal sclerosis.

Crèvecoeur J, Kaminski RM, Rogister B, Foerch P, Vandenplas C, Neveux M, Mazzuferi M, Kroonen J, Poulet C, Martin D, Sadzot B, et al.

Neuropathology and applied neurobiology (2014) 40(2): 191-204. **IHC; tested species: human**

DP-b99 modulates matrix metalloproteinase activity and neuronal plasticity.

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PLoS one (2014) 9(6): e99789. **IHC**