**ZnT 3**

Cat.No. 197 003; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

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**Selected References SYSY Antibodies**

Nestin-expressing cell types in the temporal lobe and hippocampus: Morphology, differentiation, and proliferative capacity.

Functional responses of the hippocampus to hyperexcitability depend on directed, neuron-specific KCNQ2 K⁺ channel plasticity.
Carver CM, Hastings SD, Cook ME, Shapiro MS
Hippocampus (2019) : **IHC; tested species: mouse**

Impact of Swiprosin-1/EFhand on Adult Hippocampal Neurogenesis.
Regensburger M, Prots I, Reimer D, Brach S, Luskarn S, Lie DC, Mielenz D, Winner B

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**Selected General References**

Vglut1 and ZnT3 co-targeting mechanisms regulate vesicular zinc stores in PC12 cells.
Salazar G, Craig B, Love R, Kalman D, Faundez V

The zinc transporter ZnT3 interacts with AP-3 and it is preferentially targeted to a distinct synaptic vesicle subpopulation.

Accumulation of zinc in degenerating hippocampal neurons of ZnT3-null mice after seizures: evidence against synaptic vesicle origin.
Lee JY, Cole TB, Palmiter RD, Koh JY

Elimination of zinc from synaptic vesicles in the intact mouse brain by disruption of the ZnT3 gene.
Cole TB, Wenzel HJ, Kefer KE, Schwartzkroin PA, Palmiter RD

Ultrastructural localization of zinc transporter-3 (ZnT-3) to synaptic vesicle membranes within mossy fiber boutons in the hippocampus of mouse and monkey.
Wenzel HJ, Cole TB, Born DE, Schwartzkroin PA, Palmiter RD

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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 transport 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**.