

ZnT 3

Cat.No. 197-0P; control protein, 100 µg protein (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg protein, lyophilized. For reconstitution add 100 µl H ₂ O to get a 1mg/ml solution in TBS. Then aliquot and store at -20°C until use.
Immunogen	Recombinant protein corresponding to AA 2 to 75 from mouse ZnT3 (UniProt Id: P97441)
Recommended dilution	Optimal concentrations should be determined by the end-user.
matching antibodies	197 002, 197 003, 197 003C3, 197 004, 197 011, 197 011BT, 197 006, 197 003DY2, 197 003DY5
Remarks	This control protein consists of the recombinant protein (aa 2 - 75 of mouse ZnT 3) that has been used for immunization. It has been tested in preadsorption experiments and blocks efficiently and specifically the corresponding signal in Western blots. The amount of peptide needed for efficient blocking depends on the titer and on the affinity of the antibody to the antigen.

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 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**.

Selected General References

Vglut1 and ZnT3 co-targeting mechanisms regulate vesicular zinc stores in PC12 cells.

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The zinc transporter ZnT3 interacts with AP-3 and it is preferentially targeted to a distinct synaptic vesicle subpopulation.
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Molecular biology of the cell (2004) 15(2): 575-87.

Accumulation of zinc in degenerating hippocampal neurons of ZnT3-null mice after seizures: evidence against synaptic vesicle origin.

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The Journal of neuroscience : the official journal of the Society for Neuroscience (2000) 20(11): RC79.

Elimination of zinc from synaptic vesicles in the intact mouse brain by disruption of the ZnT3 gene.

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Ultrastructural localization of zinc transporter-3 (ZnT-3) to synaptic vesicle membranes within mossy fiber boutons in the hippocampus of mouse and monkey.

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