

ZnT 1

Cat.No. 166 103; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Rabbit serum albumin was added for stabilization. For reconstitution add 50 µl H ₂ O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	WB: 1 : 1000 (AP staining) IP: not tested yet ICC: not tested yet IHC: not tested yet IHC-P/FFPE: not tested yet
Immunogen	Synthetic peptide corresponding to AA 494 to 507 from rat ZnT1 (UniProt Id: Q62720)
Reactivity	Reacts with: rat (Q62720), mouse (Q60738). Other species not tested yet.
Specificity	Specific for ZnT 1.

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

The essential micronutrient Zn 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 by specialized transport mechanisms.

Four Zn transporter proteins **ZnT 1**, 2, 3 and 4 have been cloned. All of them contain several transmembrane domains and a histidine rich intracellular loop.

ZnT 1 is abundantly expressed and has been suggested to be responsible for the efflux of Zn²⁺ from cells. It is upregulated by high oral Zn doses.

Selected General References

Silencing of ZnT-1 expression enhances heavy metal influx and toxicity.
Ohana E, Sekler I, Kaismann T, Kahn N, Cove J, Silverman WF, Amsterdam A, Hershfinkel M
Journal of molecular medicine (Berlin, Germany) (2006) 84(9): 753-63.

Alterations in zinc transporter protein-1 (ZnT-1) in the brain of subjects with mild cognitive impairment, early, and late-stage Alzheimer's disease.
Lovell MA, Smith JL, Xiong S, Markesbery WR
Neurotoxicity research (2005) 7(4): 265-71.

ZnT-1 expression in astroglial cells protects against zinc toxicity and slows the accumulation of intracellular zinc.
Nolte C, Gore A, Sekler I, Kresse W, Hershfinkel M, Hoffmann A, Kettenmann H, Moran A
Glia (2004) 48(2): 145-55.

Intestinal and placental zinc transport pathways.

Ford D
The Proceedings of the Nutrition Society (2004) 63(1): 21-9.

Postnatal regulation of ZnT-1 expression in the mouse brain.
Nitzan YB, Sekler I, Hershfinkel M, Moran A, Silverman WF
Brain research. Developmental brain research (2002) 137(2): 149-57.

Regulation of the zinc transporter ZnT-1 by dietary zinc.
McMahon RJ, Cousins RJ
Proceedings of the National Academy of Sciences of the United States of America (1998) 95(9): 4841-6.