

# ZnT-1 (D-20): sc-27501



The Power to Question

## BACKGROUND

Zinc, an essential element required for cell proliferation and differentiation, plays a role in a diverse array of cellular functions, including acting as a cofactor for numerous enzymes and transcription factors and as a neuroregulator. The zinc transporter (ZnT) family regulates the supply of zinc within cells, and its members are characterized by containing six membrane-spanning domains, a large histidine-rich intracellular loop, and a C-terminal tail. ZnT-1, a ubiquitous protein, localizes to the plasma membrane to aid in the export of zinc out of cells.

## REFERENCES

- Palmiter, R.D., et al. 1995. Cloning and functional characterization of a mammalian zinc transporter that confers resistance to zinc. *EMBO J.* 14: 639-649.
- McMahon, R.J., et al. 1998. Mammalian zinc transporters. *J. Nutr.* 128: 667-670.
- Cousins, R.J., et al. 2000. Integrative aspects of zinc transporters. *J. Nutr.* 130: 1384S-1387S.
- Beyersmann, D., et al. 2001. Functions of zinc in signaling, proliferation and differentiation of mammalian cells. *Biometals* 14: 331-341.
- Liuzzi, J.P., et al. 2001. Differential regulation of zinc transporter 1, 2, and 4 mRNA expression by dietary zinc in rats. *J. Nutr.* 131: 46-52.
- Sekler, I., et al. 2002. Distribution of the zinc transporter ZnT-1 in comparison with chelatable zinc in the mouse brain. *J. Comp. Neurol.* 447: 201-209.
- Cousins, R.J., et al. 2003. Regulation of zinc metabolism and genomic outcomes. *J. Nutr.* 133: 1521S-1526S.

## CHROMOSOMAL LOCATION

Genetic locus: SLC30A1 (human) mapping to 1q32.3; Slc30a1 (mouse) mapping to 1 H6.

## SOURCE

ZnT-1 (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of ZnT-1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-27501 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

ZnT-1 (D-20) is recommended for detection of ZnT-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ZnT-1 (D-20) is also recommended for detection of ZnT-1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ZnT-1 siRNA (h): sc-106717, ZnT-1 siRNA (m): sc-155817, ZnT-1 shRNA Plasmid (h): sc-106717-SH, ZnT-1 shRNA Plasmid (m): sc-155817-SH, ZnT-1 shRNA (h) Lentiviral Particles: sc-106717-V and ZnT-1 shRNA (m) Lentiviral Particles: sc-155817-V.

Molecular Weight of ZnT-1: 60 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

- Leung, K.W., et al. 2008. Expression of ZnT and ZIP zinc transporters in the human RPE and their regulation by neurotrophic factors. *Invest. Ophthalmol. Vis. Sci.* 49: 1221-1231.
- Qiao, Y., et al. 2014. Stimulation of bone growth following zinc incorporation into biomaterials. *Biomaterials* 35: 6882-6897.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.