

ZnT-4 (N-17): sc-27511

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. Like ZnT-1, ZnT-4 displays ubiquitous expression with high expression in mammary gland and brain. ZnT-4 may also participate in "lethal milk" syndrome, where breast milk contains lowered levels of zinc.

REFERENCES

1. 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.
2. McMahon, R.J., et al. 1998. Mammalian zinc transporters. *J. Nutr.* 128: 667-670.
3. Beyersmann, D., et al. 2001. Functions of zinc in signaling, proliferation and differentiation of mammalian cells. *Biometals* 14: 331-341.
4. 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.
5. 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.

CHROMOSOMAL LOCATION

Genetic locus: SLC30A4 (human) mapping to 15p21.1; Slc30a4 (mouse) mapping to 2 E5.

SOURCE

ZnT-4 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of ZnT-4 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-27511 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

ZnT-4 (N-17) is recommended for detection of ZnT-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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-4 (N-17) is also recommended for detection of ZnT-4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ZnT-4 siRNA (h): sc-106719, ZnT-4 siRNA (m): sc-155820, ZnT-4 shRNA Plasmid (h): sc-106719-SH, ZnT-4 shRNA Plasmid (m): sc-155820-SH, ZnT-4 shRNA (h) Lentiviral Particles: sc-106719-V and ZnT-4 shRNA (m) Lentiviral Particles: sc-155820-V.

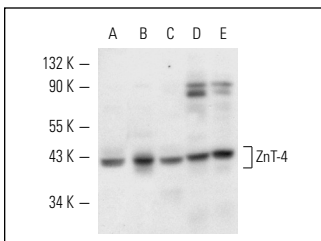
Molecular Weight of ZnT-4: 42 kDa.

Positive Controls: MDA-MB-231 cell lysate: sc-2232, SK-BR-3 cell lysate: sc-2218 or SK-N-MC cell lysate: sc-2237.

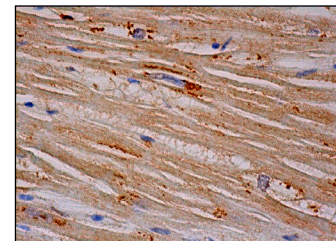
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



ZnT-4 (N-17): sc-27511. Western blot analysis of ZnT-4 expression in MDA-MB-231 (A), SK-BR-3 (B) and SK-N-MC (C) whole cell lysates and rat brain (D) and mouse brain (E) tissue extracts.



ZnT-4 (N-17): sc-27511. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. 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.