SANTA CRUZ BIOTECHNOLOGY, INC.

ZnT-3 (G-14): sc-27508

SANTA CRUZ BIOTECHNOLOGY

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 co-factor 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-3 mediates the uptake of zinc into vesicles in brain and testis.

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. Palmiter, R.D., et al. 1996. ZnT-3, a putative transporter of zinc into synaptic vesicles. Proc. Natl. Acad. Sci. USA 93: 14934-14939.
3. Wenzel, H.J., et al. 1997. Ultrastructural localization of zinc transporter-3 (ZnT-3) to synaptic vesicle membranes within mossy fiber boutons in the hippocampus of mouse and monkey. Proc. Natl. Acad. Sci. USA 94: 12676-12681.
4. McMahon, R.J., et al. 1998. Mammalian zinc transporters. J. Nutr. 128: 667-670.
5. Lee J.Y., 2000. Accumulation of zinc in degenerating hippocampal neurons of ZnT3-null mice after seizures: evidence against synaptic vesicle origin. J Neurosci. 20:RC79.
6. Beyersmann, D., et al. 2001. Functions of zinc in signaling, proliferation and differentiation of mammalian cells. Biometals 14: 331-341.
7. 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: SLC30A3 (human) mapping to 2p23.3; Slc30a3 (mouse) mapping to 5 B1.

SOURCE

ZnT-3 (G-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of ZnT-3 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-27508 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.

APPLICATIONS

ZnT-3 (G-14) is recommended for detection of ZnT-3 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-3 (G-14) is also recommended for detection of ZnT-3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ZnT-3 siRNA (h): sc-45964, ZnT-3 siRNA (m): sc-45993, ZnT-3 shRNA Plasmid (h): sc-45964-SH, ZnT-3 shRNA Plasmid (m): sc-45993-SH, ZnT-3 shRNA (h) Lentiviral Particles: sc-45964-V and ZnT-3 shRNA (m) Lentiviral Particles: sc-45993-V.

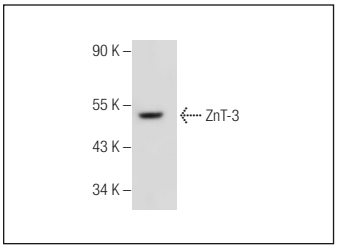
Molecular Weight of ZnT-3: 48 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, F9 cell lysate: sc-2245 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

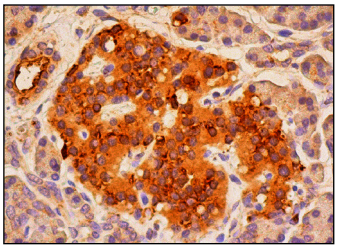
RECOMMENDED SECONDARY REAGENTS

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-3 (G-14): sc-27508. Western blot analysis of ZnT-3 expression in F9 whole cell lysate.



ZnT-3 (G-14): sc-27508. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islets of Langerhans.

RESEARCH USE

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