

ZnT-5 (A-13): sc-161272

BACKGROUND

Zinc, an essential element required for cell proliferation and differentiation, plays a role in a diverse array of cellular functions (such as neuroregulation) and acts as a cofactor for numerous enzymes and transcription factors. The zinc transporter (ZnT) family regulates the supply of zinc within cells, and its members commonly contain six membrane-spanning domains, a large histidine-rich intracellular loop and a C-terminal tail. ZnT-5 (zinc transporter 5), also known as SLC30A5 (solute carrier family 30 member 5), ZNTL1 or ZTL1, is a 765 amino acid protein that localizes to the membrane of the *trans*-Golgi network. Expressed throughout the body with highest expression in liver, pancreas and kidney, ZnT-5 functions as zinc transporter that regulates zinc homeostasis within vesicular compartments and the Golgi apparatus and may help to form Insulin crystals within pancreatic β cells. ZnT-5 is expressed as two isoforms due to alternative splicing events and its expression is upregulated in response to zinc depletion.

REFERENCES

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2. Cragg, R.A., Christie, G.R., Phillips, S.R., Russi, R.M., Küry, S., Mathers, J.C., Taylor, P.M. and Ford, D. 2002. A novel zinc-regulated human zinc transporter, hZTL1, is localized to the enterocyte apical membrane. *J. Biol. Chem.* 277: 22789-22797.
3. Devergnas, S., Chimienti, F., Naud, N., Pennequin, A., Coquerel, Y., Chantegrel, J., Favier, A. and Seve, M. 2004. Differential regulation of zinc efflux transporters ZnT-1, ZnT-5 and ZnT-7 gene expression by zinc levels: a real-time RT-PCR study. *Biochem. Pharmacol.* 68: 699-709.
4. Cragg, R.A., Phillips, S.R., Piper, J.M., Varma, J.S., Campbell, F.C., Mathers, J.C. and Ford, D. 2005. Homeostatic regulation of zinc transporters in the human small intestine by dietary zinc supplementation. *Gut* 54: 469-478.

CHROMOSOMAL LOCATION

Genetic locus: SLC30A5 (human) mapping to 5q13.1; Slc30a5 (mouse) mapping to 13 D1.

SOURCE

ZnT-5 (A-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of ZnT-5 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-161272 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

ZnT-5 (A-13) is recommended for detection of ZnT-5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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); non cross-reactive with other ZnT family members.

ZnT-5 (A-13) is also recommended for detection of ZnT-5 in additional species, including equine, canine and porcine.

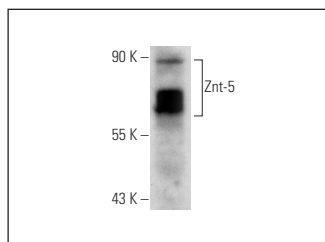
Suitable for use as control antibody for ZnT-5 siRNA (h): sc-91622, ZnT-5 siRNA (m): sc-155978, ZnT-5 shRNA Plasmid (h): sc-91622-SH, ZnT-5 shRNA Plasmid (m): sc-155978-SH, ZnT-5 shRNA (h) Lentiviral Particles: sc-91622-V and ZnT-5 shRNA (m) Lentiviral Particles: sc-155978-V.

Molecular Weight (predicted) of ZnT-5 isoforms 1/2: 84/57 kDa.

Molecular Weight (observed) of ZnT-5: 68 kDa.

Positive Controls: MIA PaCa-2 cell lysate: sc-2285.

DATA



ZnT-5 (A-13): sc-161272. Western blot analysis of ZnT-5 expression in MIA PaCa-2 whole cell lysate.

STORAGE

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

PROTOCOLS

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


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Try **ZnT-5 (2F10-2B8): sc-517038**, our highly recommended monoclonal alternative to ZnT-5 (A-13).