

# ZnT-5 (2F10-2B8): sc-517038

## 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  $\beta$  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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3. Devergnas, S., et al. 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., et al. 2005. Homeostatic regulation of zinc transporters in the human small intestine by dietary zinc supplementation. *Gut* 54: 469-478.
5. Suzuki, T., et al. 2005. Zinc transporters, ZnT5 and ZnT7, are required for the activation of alkaline phosphatases, zinc-requiring enzymes that are glycosylphosphatidylinositol-anchored to the cytoplasmic membrane. *J. Biol. Chem.* 280: 637-643.
6. Ishihara, K., et al. 2006. Zinc transport complexes contribute to the homeostatic maintenance of secretory pathway function in vertebrate cells. *J. Biol. Chem.* 281: 17743-17750.
7. Jackson, K.A., et al. 2007. Splice variants of the human zinc transporter ZnT5 (SLC30A5) are differentially localized and regulated by zinc through transcription and mRNA stability. *J. Biol. Chem.* 282: 10423-10431.
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## CHROMOSOMAL LOCATION

Genetic locus: SLC30A5 (human) mapping to 5q13.1.

## SOURCE

ZnT-5 (2F10-2B8) is a mouse monoclonal antibody raised against amino acids 1-118 representing full length ZnT-5 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

ZnT-5 (2F10-2B8) is recommended for detection of ZnT-5 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

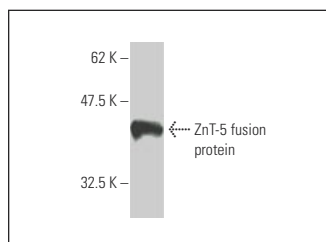
Molecular Weight (predicted) of ZnT-5 isoform 1/2: 84/57 kDa.

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

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), 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).

## DATA



ZnT-5 (2F10-2B8): sc-517038. Western blot analysis of human recombinant ZnT-5 fusion protein.

## 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.