

ZIP1 (F-2): sc-393345



The Power to Question

BACKGROUND

Zinc is an essential cofactor that is involved in cell growth and development, as well as in protein, nucleic acid and lipid metabolism. The transport of zinc across the cell membrane is crucial for correct enzyme and overall cell function. ZIP1, also known as SLC39A1 (solute carrier family 39 (zinc transporter), member 1), IRT1 or ZIRT1, is a 324 amino acid multi-pass membrane protein that localizes to both the cell membrane and the endoplasmic reticulum and belongs to the ZIP transporter family. Expressed ubiquitously in adult and fetal tissue, ZIP1 functions as a major endogenous zinc uptake transporter, effectively mediating the transport of zinc across the cell membrane. ZIP1, whose activity is inhibited by Ni^{2+} , may play an important role in zinc uptake within prostate cells, possibly effecting the development of prostate cancer.

REFERENCES

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- Franklin, R.B., et al. 2003. Human ZIP1 is a major zinc uptake transporter for the accumulation of zinc in prostate cells. *J. Inorg. Biochem.* 96: 435-442.
- Franklin, R.B., et al. 2005. hZIP1 zinc uptake transporter down regulation and zinc depletion in prostate cancer. *Mol. Cancer* 4: 32.
- Tang, Z., et al. 2006. Overexpression of the ZIP1 zinc transporter induces an osteogenic phenotype in mesenchymal stem cells. *Bone* 38: 181-198.
- Huang, L. and Kirschke, C.P. 2007. A di-leucine sorting signal in ZIP1 (SLC39A1) mediates endocytosis of the protein. *FEBS J.* 274: 3986-3997.
- Golovine, K., et al. 2008. Overexpression of the zinc uptake transporter hZIP1 inhibits nuclear factor- κ B and reduces the malignant potential of prostate cancer cells *in vitro* and *in vivo*. *Clin. Cancer Res.* 14: 5376-5384.

CHROMOSOMAL LOCATION

Genetic locus: SLC39A1 (human) mapping to 1q21.3; Slc39a1 (mouse) mapping to 3 F1.

SOURCE

ZIP1 (F-2) is a mouse monoclonal antibody raised against amino acids 83-192 mapping within an internal region of ZIP1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ZIP1 (F-2) is available conjugated to agarose (sc-393345 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393345 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393345 PE), fluorescein (sc-393345 FITC), Alexa Fluor[®] 488 (sc-393345 AF488), Alexa Fluor[®] 546 (sc-393345 AF546), Alexa Fluor[®] 594 (sc-393345 AF594) or Alexa Fluor[®] 647 (sc-393345 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-393345 AF680) or Alexa Fluor[®] 790 (sc-393345 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

ZIP1 (F-2) is recommended for detection of ZIP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for ZIP1 siRNA (h): sc-88210, ZIP1 siRNA (m): sc-155977, ZIP1 shRNA Plasmid (h): sc-88210-SH, ZIP1 shRNA Plasmid (m): sc-155977-SH, ZIP1 shRNA (h) Lentiviral Particles: sc-88210-V and ZIP1 shRNA (m) Lentiviral Particles: sc-155977-V.

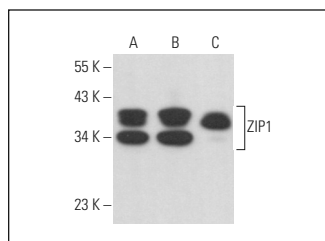
Molecular Weight of ZIP1: 34 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, A-10 cell lysate: sc-3806 or RAW 264.7 whole cell lysate: sc-2211.

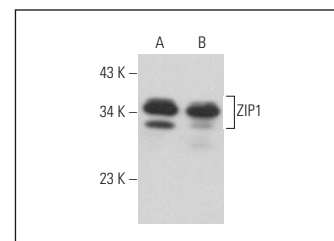
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



ZIP1 (F-2): sc-393345. Western blot analysis of ZIP1 expression in HCT-116 (A), WI-38 (B) and NIH/3T3 (C) whole cell lysates.



ZIP1 (F-2): sc-393345. Western blot analysis of ZIP1 expression in RAW 264.7 (A) and A-10 (B) whole cell lysates.

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 for detailed protocols and support products.