

# ZIP7 (E-16): sc-83857

## 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. ZIP7, also known as SLC39A7 (solute carrier family 39 (zinc transporter), member 7), KE4, HKE4, RING5 or H2-KE4, is a 469 amino acid multi-pass membrane protein that belongs to the ZIP transporter family. Expressed at high levels in kidney, placenta, pancreas and lung, ZIP7 functions as a zinc transporter that facilitates the movement of zinc, both from the extracellular environment and from intracellular storage compartments, to the cytosol. The gene encoding ZIP7 maps to human chromosome 6, which contains 170 million base pairs and comprises nearly 6% of the human genome.

## REFERENCES

1. Aziz, N., et al. 1993. Downregulation of KE6, a novel gene encoded within the major histocompatibility complex, in murine polycystic kidney disease. *Mol. Cell. Biol.* 13: 1847-1853.
2. Aziz, N., et al. 1994. Coordinate regulation of 11  $\beta$ -HSD and KE6 genes in Cpk mouse: implications for steroid metabolic defect in PKD. *Am. J. Physiol.* 267: F791-F797.
3. Ando, A., et al. 1996. cDNA cloning of the human homologues of the mouse KE4 and KE6 genes at the centromeric end of the human MHC region. *Genomics* 35: 600-602.
4. Kikuti, Y.Y., et al. 1997. Physical mapping 220 kb centromeric of the human MHC and DNA sequence analysis of the 43 kb segment including the RING1, HKE6, and HKE4 genes. *Genomics* 42: 422-435.
5. Taylor, K.M., Morgan, H.E., Johnson, A. and Nicholson, R.I. 2004. Structure-function analysis of HKE4, a member of the new LIV-1 subfamily of zinc transporters. *Biochem. J.* 377: 131-139.
6. Huang, L., Kirschke, C.P., Zhang, Y. and Yu, Y.Y. 2005. The ZIP7 gene (Slc39a7) encodes a zinc transporter involved in zinc homeostasis of the Golgi apparatus. *J. Biol. Chem.* 280: 15456-15463.
7. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 601416. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
8. Taylor, K.M., Vichova, P., Jordan, N., Hiscox, S., Hendley, R. and Nicholson, R.I. 2008. ZIP7-mediated intracellular zinc transport contributes to aberrant growth factor signaling in antihormone-resistant breast cancer Cells. *Endocrinology* 149: 4912-4920.

## CHROMOSOMAL LOCATION

Genetic locus: SLC39A7 (human) mapping to 6p21.32.

## SOURCE

ZIP7 (E-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ZIP7 of human origin.

## RESEARCH USE

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

## PRODUCT

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

Blocking peptide available for competition studies, sc-83857 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ZIP7 (E-16) is recommended for detection of ZIP7 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 ZIP family members.

ZIP7 (E-16) is also recommended for detection of ZIP7 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ZIP7 siRNA (h): sc-76962, ZIP7 shRNA Plasmid (h): sc-76962-SH and ZIP7 shRNA (h) Lentiviral Particles: sc-76962-V.

Molecular Weight of ZIP7: 50 kDa.

## 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) 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.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.