10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

ZIP14 Antibody

Catalog # ASC11254

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q15043
Other Accession	NP_001128625, 205830424
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	54212
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	ZIP14 antibody can be used for detection of ZIP14 by Western blot at 1 - 2 g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	23516
Other Names	Zinc transporter ZIP14, LIV-1 subfamily of ZIP zinc transporter 4, LZT-Hs4, Solute carrier family 39 member 14, Zrt- and Irt-like protein 14, ZIP-14, SLC39A14, KIAA0062, ZIP14
Target/Specificity	Slc39a14; At least three isoforms of ZIP14 are known to exist; this antibody will detect both isoforms. ZIP14 antibody is predicted to not cross-react with other ZIP family members.
Reconstitution & Storage	ZIP14 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	ZIP14 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SLC39A14 (HGNC:20858)
Function	Electroneutral transporter of the plasma membrane mediating the cellular uptake of the divalent metal cations zinc, manganese and iron that are important for tissue homeostasis, metabolism, development and immunity (PubMed:15642354, PubMed:27231142, PubMed:29621230). Functions as an energy-dependent symporter, transporting through the membranes an electroneutral complex composed of a divalent metal cation and two

	bicarbonate anions (By similarity). Beside these endogenous cellular substrates, can also import cadmium a non-essential metal which is cytotoxic and carcinogenic (By similarity). Controls the cellular uptake by the intestinal epithelium of systemic zinc, which is in turn required to maintain tight junctions and the intestinal permeability (By similarity). Modifies the activity of zinc-dependent phosphodiesterases, thereby indirectly regulating G protein-coupled receptor signaling pathways important for gluconeogenesis and chondrocyte differentiation (By similarity). Regulates insulin receptor signaling, glucose uptake, glycogen synthesis and gluconeogenesis in hepatocytes through the zinc-dependent intracellular catabolism of insulin (PubMed:27703010). Through zinc cellular uptake also plays a role in the adaptation of cells to endoplasmic reticulum stress (By similarity). Major manganese transporter of the basolateral membrane of intestinal epithelial cells, it plays a central role in manganese systemic homeostasis through intestinal manganese uptake (PubMed:31028174). Also involved in manganese extracellular uptake by cells of the blood-brain barrier (PubMed:31699897). May also play a role in manganese and zinc homeostasis participating in their elimination from the blood through the hepatobiliary excretion (By similarity). Also functions in the extracellular uptake of free iron. May also function intracellularly and mediate the transport from endosomes to cytosol of iron endocytosed by transferrin (PubMed:20682781). Plays a role in innate immunity by regulating the expression of cytokines by activated macrophages (PubMed:23052185).
Cellular Location	Cell membrane; Multi-pass membrane protein. Apical cell membrane; Multi-pass membrane protein. Basolateral cell membrane; Multi-pass membrane protein. Early endosome membrane; Multi-pass membrane protein. Late endosome membrane; Multi-pass membrane protein. Lysosome membrane; Multi- pass membrane protein. Note=Localized and functional at both apical and basolateral membranes of microvascular capillary endothelial cells that constitute the blood-brain barrier (PubMed:31699897). Localized at the basolateral membrane of enterocytes (PubMed:31028174). Enriched at the plasma membrane upon glucose uptake (PubMed:27703010).
Tissue Location	Ubiquitously expressed, with higher expression in liver, pancreas, fetal liver, thyroid gland, left and right ventricle, right atrium and fetal heart (PubMed:15642354, PubMed:20682781, PubMed:7584044). Weakly expressed in spleen, thymus, and peripheral blood leukocytes (PubMed:7584044). Expressed in liver and in brain by large neurons in the globus pallidus, the insular cortex and the dentate nucleus and to a lower extent in the putamen and the caudate nucleus (at protein level) (PubMed:27231142). Expressed in osteoblasts and giant osteoclast-like cells, but not in osteocytes found osteoblastoma and giant cell tumors (at protein level) (PubMed:29621230). Expressed by microvascular capillary endothelial cells that constitute the blood-brain barrier (at protein level) (PubMed:31699897). Expressed by macrophages (PubMed:23052185)

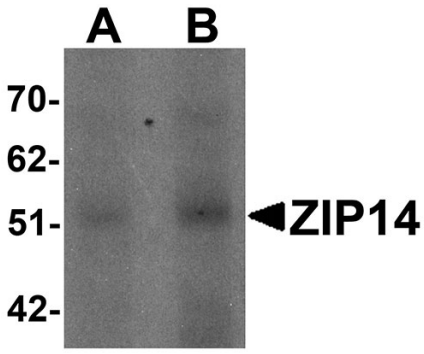
Background

ZIP14 Antibody: The zinc transporter ZIP14, also known as SLC39A14, is a member of a family of divalent ion transporters. Zinc is an essential ion for cells and plays significant roles in the growth, development, and differentiation. The zinc transporter family is divided into four subfamilies (I, II, LIV-1 and gufA). ZIP14 is a glycosylated multipass plasma membrane protein that belongs to the ZIP transporter subfamily LIV-1. ZIP14 has been shown to contribute to the hypozincemia of inflammation and infection and is regulated in the liver by IL-6. In addition to zinc, ZIP14 is also involved in the cellular uptake of non-transferrin-bound iron as well as iron bound to transferrin.

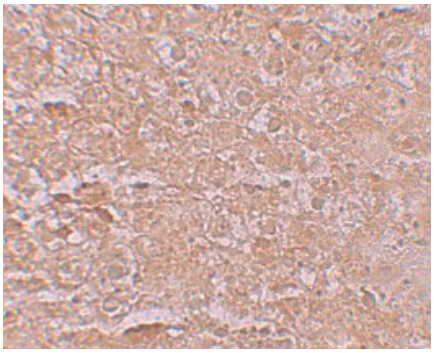
References

Dufner-Beattie J, Langmade SJ, Wang F, et al. Structure, function, and regulation of a subfamily of mouse zinc transporter genes. J. Biol. Chem. 2003; 278:50142-50.
Eide DJ. The SLC39 family of metal ion transporters. Pflugers Arch. 2004; 447:796-800.
Taylor KM and Nicohlson RI. The LZT proteins; the LIV-1 subfamily of zinc transporters. Biochim. Biophys. Acta. 2003; 1611:16-30.
Taylor KM, Morgan HE, Johnson A, et al. Structure-function analysis of a novel member of the LIV-1 subfamily of zinc transporters, ZIP14. FEBS Lett. 2005; 579:427-32.

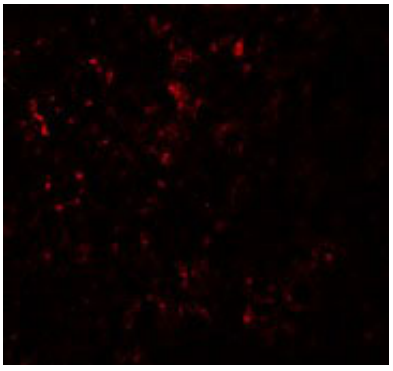
Images



Western blot analysis of ZIP14 in human spleen tissue lysate with ZIP14 antibody at (A) 1 and (B) 2 µg/mL.



Immunohistochemistry of ZIP14 in mouse liver tissue with ZIP14 antibody at 2.5 µg/mL.



Immunofluorescence of ZIP14 in Mouse Liver tissue with ZIP14 antibody at 20 µg/mL.

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