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ZIP8 Antibody
Catalog # ASC11249

Specification

ZIP8 Antibody - Product Information

Application	**WB, IHC, IF**
Primary Accession	Q9C0K1
Other Accession	NP_071437, 205830403
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Application Notes	**ZIP8 antibody can be used for detection of ZIP8 by Western blot at 1 - 2 µg/mL. Antibody can also be used for immunohistochemistry starting at 5 µg/mL. For immunofluorescence start at 20 µg/mL.**

ZIP8 Antibody - Additional Information

Gene ID **64116**

Target/Specificity
Slc39a8; ZIP8 antibody is predicted to not cross-react with other ZIP family members.

Reconstitution & Storage
ZIP8 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
ZIP8 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

ZIP8 Antibody - Protein Information

Name SLC39A8 (HGNC:20862)

Function
Electroneutral divalent metal cation:bicarbonate symporter of the plasma membrane mediating the cellular uptake of zinc and manganese, two divalent metal cations important for development, tissue homeostasis and immunity (PubMed:12504855, PubMed:22898811, PubMed:23403290, PubMed:29337306, PubMed:26637978, PubMed:29453449). Transports an electroneutral complex composed of a divalent metal cation and two bicarbonate anions or alternatively a bicarbonate and a selenite anion (PubMed:27166256,

PubMed:31699897). Thereby, it also contributes to the cellular uptake of selenium, an essential trace metal and micronutrient (PubMed:27166256). Also imports cadmium a non- essential metal which is cytotoxic and carcinogenic (PubMed:27466201). May also transport iron and cobalt through membranes (PubMed:22898811). Through zinc import, indirectly regulates the metal-dependent transcription factor MTF1 and the expression of some metalloproteases involved in cartilage catabolism and also probably heart development (PubMed:29337306). Also indirectly regulates the expression of proteins involved in cell morphology and cytoskeleton organization (PubMed:29927450). Indirectly controls innate immune function and inflammatory response by regulating zinc cellular uptake which in turn modulates the expression of genes specific of these processes (PubMed:23403290, PubMed:28056086). Protects, for instance, cells from injury and death at the onset of inflammation (PubMed:18390834). By regulating zinc influx into monocytes also directly modulates their adhesion to endothelial cells and arteries (By similarity). Reclaims manganese from the bile at the apical membrane of hepatocytes, thereby regulating the activity of the manganese-dependent enzymes through the systemic levels of the nutrient (PubMed:28481222). Also participates in manganese reabsorption in the proximal tubule of the kidney (PubMed:26637978). By mediating the extracellular uptake of manganese by cells of the blood-brain barrier, may also play a role in the transport of the micronutrient to the brain (PubMed:26637978, PubMed:31699897). With manganese cellular uptake also participates in mitochondrial proper function (PubMed:29453449). Finally, also probably functions intracellularly, translocating zinc from lysosome to cytosol to indirectly enhance the expression of specific genes during TCR- mediated T cell activation (PubMed:19401385).

Cellular Location
Cell membrane; Multi-pass membrane protein. Lysosome membrane; Multi-pass membrane protein. Apical cell membrane; Multi-pass membrane protein. Basolateral cell membrane; Multi-pass membrane protein. Note=Localizes to the lysosome of activated T-cells (PubMed:19401385). A large fraction of the protein is found intracellularly in microvascular capillary endothelial cells that constitute the blood-brain barrier (PubMed:31699897). Localized and functional at both apical and basolateral membranes of microvascular capillary endothelial cells that constitute the blood-brain barrier (PubMed:31699897)

Tissue Location
Ubiquitously expressed (PubMed:12504855, PubMed:22898811, PubMed:28056086, PubMed:31699897). Expressed in thymus, placenta, lung, liver, pancreas, salivary gland and, to a lower extent, in spleen, testis, ovary, small intestine, colon, leukocyte, heart. Highest expression is observed in pancreas (PubMed:12504855) Expressed by macrophages (at protein level) (PubMed:28056086) Expressed by microvascular capillary endothelial cells that constitute the blood-brain barrier (at protein level) (PubMed:31699897)

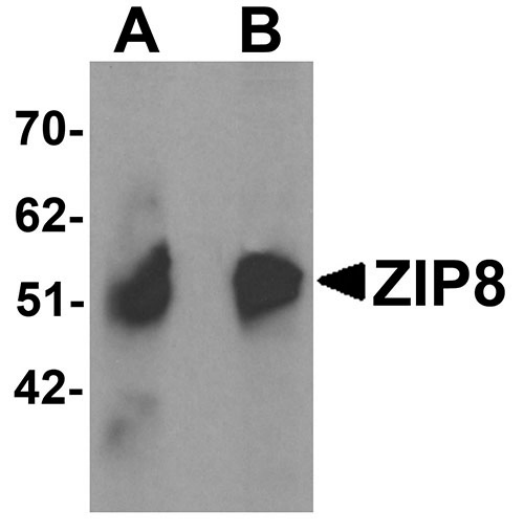
ZIP8 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

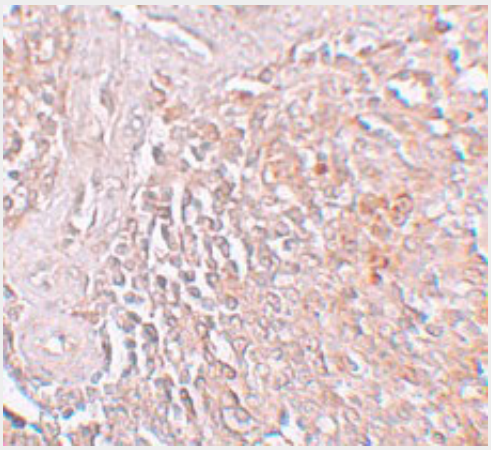
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- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

ZIP8 Antibody - Images

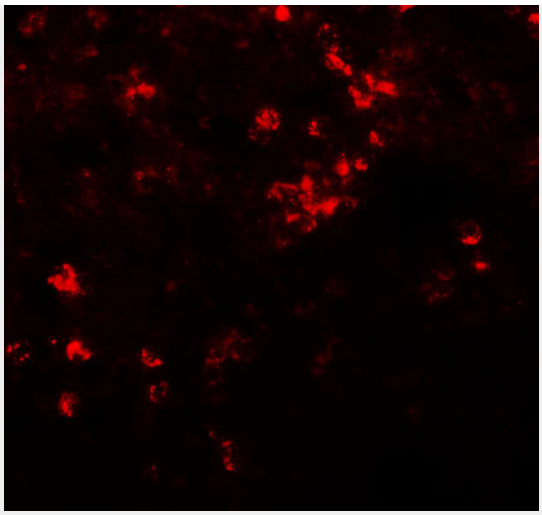


Western blot analysis of ZIP8 in human spleen tissue lysate with ZIP8 antibody at (A) 1 and (B) 2 µg/mL.



Immunohistochemistry of ZIP8 in human spleen tissue with ZIP8 antibody at 5 µg/mL.

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Immunofluorescence of ZIP8 in human spleen tissue with ZIP8 antibody at 20 µg/mL.

ZIP8 Antibody - Background

ZIP8 Antibody: The zinc transporter ZIP8, also known as SLC39A9, 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). ZIP8 is glycosylated and located at the plasma membrane and mitochondria. It has been identified as the transporter responsible for transport of the toxic Cadmium cation. ZIP8 has also been suggested to play a role in the regulation of interferon-gamma expression in activated human T cells.

ZIP8 Antibody - 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.
Dalton TP, He L, Wang B, et al. Identification of mouse SLC39A8 as the transporter responsible for cadmium-induced toxicity in the testis. Proc. Natl. Acad. Sci. USA2005; 102:3401-6.