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SLC39A14 Rabbit pAb

Catalog # AP97277

Product Information

Application	IHC-P, IHC-F, IF, E
Primary Accession	Q15043
Other Accession	Q15043
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	54212
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human SLC39A14
Epitope Specificity	51-150/492
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the ZIP transporter (TC 2.A.5) family.
SUBUNIT	Homotrimer.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Zinc is an essential cofactor for hundreds of enzymes. It is involved in protein, nucleic acid, carbohydrate, and lipid metabolism, as well as in the control of gene transcription, growth, development, and differentiation. SLC39A14 belongs to a subfamily of proteins that show structural characteristics of zinc transporters (Taylor and Nicholson, 2003 [PubMed 12659941]).[supplied by OMIM, Mar 2008]

Additional Information

Gene ID	23516
Other Names	CK820_G0013410; HCIN; HMNDYT2; LZT-Hs4; NET34; ZIP14; cig19; FAD-123; ZIP-14; fad123; CR201_G0005121; S39AE_HUMAN; SLC39A14; LIV-1 subfamily of ZIP zinc transporter 4 (LZT-Hs4); Solute carrier family 39 member 14; Zrt- and Irt-like protein 14 (ZIP-14); KIAA0062; S39AE_MOUSE; Factor for adipocyte differentiation 123 (FAD-123); S39AE_PONAB; solute carrier family 39 (metal ion transporter), member 14; solute carrier family 39 (zinc transporter), member 14; zinc transporter 14; ZRT/IRT-like protein 14; Metal cation symporter ZIP14
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ICC/IF=1:50 - 1:200,ELISA=1:1000-5000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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)

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.