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S39A8 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP9359c

Product Information

Application	WB, FC, E
Primary Accession	Q9C0K1
Reactivity	Human
Predicted	Bovine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB24763
Calculated MW	49631
Antigen Region	218-246

Additional Information

Gene ID	64116
Other Names	Zinc transporter ZIP8, BCG-induced integral membrane protein in monocyte clone 103 protein, LIV-1 subfamily of ZIP zinc transporter 6, LZT-Hs6, Solute carrier family 39 member 8, Zrt- and Irt-like protein 8, ZIP-8, SLC39A8, BIGM103, ZIP8
Target/Specificity	This S39A8 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 218-246 amino acids from the Central region of human S39A8.
Dilution	WB~~1:1000 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	S39A8 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

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:26637978, PubMed:29337306, 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)

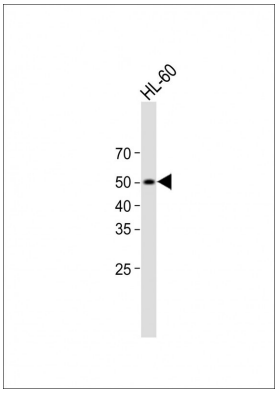
Background

S39A8 encodes a member of the SLC39 family of solute-carrier genes, which show structural characteristics of zinc transporters. The encoded protein is glycosylated and found in the plasma membrane and mitochondria, and functions in the cellular import of zinc at the onset of inflammation. It is also thought to be the primary transporter of the toxic cation cadmium, which is found in cigarette smoke.

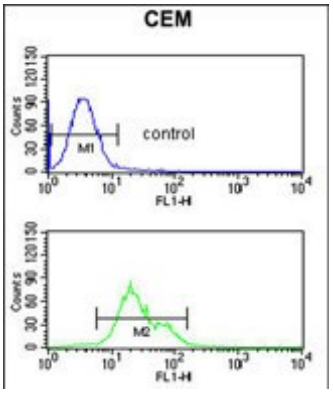
References

Wang,L. Cancer Epidemiol. Biomarkers Prev. 17 (12), 3558-3566 (2008)
Aiba,I. Mol. Pharmacol. 74 (3), 823-833 (2008)
Besecker,B. Am. J. Physiol. Lung Cell Mol. Physiol. 294 (6), L1127-L1136 (2008)

Images



All lanes: Anti-S39A8 Antibody (Center) at 1:2000 dilution + HL-60 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size: 50 KDa Blocking/Dilution buffer: 5% NFDM/TBST.



S39A8 Antibody (Center) (Cat. #AP9359c) flow cytometric analysis of CEM cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

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