

Recombinant Mouse S39A8 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51823

Size: 10ug, 100ug

Protein Name: Metal cation symporter ZIP8 (Solute carrier family 39 member 8) (Zrt- and Irt-like protein 8) (ZIP-8)

Synonym: Slc39a8, Zip8

UniProt ID: Q91W10

UniProt Link: www.uniprot.org/uniprotkb/Q91W10/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 462 AA

Molecular Weight: 50 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MAPGRAVAGLLLLAATSLGHPSEGPELAFSEDVLSVFGANRSLSAAQLGRLLERLGAASQQGALDL
GQLHFNQCLSAEDIFSLHGFSNVTQITSSNFSACPAILQQLNHPCEDLRKHNAKPSLSEVWGYGFL
SVTIINLASLLGLILTPLIKKSYFPKILTYFVGLAIGTLFSNAIFQLIPEAFGFNPKIDNYVEKAVAVFGGFY
MLFFVERTLKMLLKTYGQNDHTHFRNDDFGSKEKTHQPKTLPLPAVNGVTTCYANPAVTEPNGHIHF
DTVSVVSLQDGKTEPSSCTCLKGPKLSEIGTIAWMITLCDALHNFIDGLAIGASCTLSLLQGLSTSIIL
CEEFPHELGDVFILLNAGMSTRQALLFNFLSACSCYVGLAFGILVGNNFAPNIIFALAGGMFLYISLAD
MFPEMNDMLREKVTGRQTDFTFFMIQNAGMLTGFTAILLITLYAGDIELQ

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.



4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Metal cation symporter ZIP8 (Solute carrier family 39 member 8) (Zrt- and Irt-like protein 8) (ZIP-8) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein 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:16638970, PubMed:18037372, PubMed:22563477, PubMed:29337306). Transports an electroneutral complex composed of a divalent metal cation and two bicarbonate anions or alternatively a bicarbonate and a selenite anion (PubMed:16638970, PubMed:18037372, PubMed:22563477, PubMed:27166256). 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:15722412, PubMed:16638970, PubMed:17108009, PubMed:18037372, PubMed:24529376). May also transport iron and cobalt through membranes (PubMed:16638970, PubMed:22898811, PubMed:24529376). 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:24529376, 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). Protects, for instance, cells from injury and death at the onset of inflammation (By similarity). By regulating zinc influx into monocytes also directly modulates their adhesion to endothelial cells and arteries (PubMed:30015240). 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 (By similarity). 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. With manganese cellular uptake also participates in mitochondrial proper function (By similarity). 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 (By similarity).

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

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial

manufacturing.