

Recombinant Mouse S15A4 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51824

Size: 10ug, 100ug

Protein Name: Solute carrier family 15 member 4 (Peptide/histidine transporter 1)

Synonym: Slc15a4, Pht1

UniProt ID: Q91W98

UniProt Link: www.uniprot.org/uniprotkb/Q91W98/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 574 AA

Molecular Weight: 62 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MEGERAPLLGSRRPAVSAASAVFAGRRAACGAVLLAELLERAAFYGV TANLVFLNGAPFDWEGAQ
ASQALLLFMGLTYLGSPFGGWLADARLGRARAILLSLALYLLGLLAFPLLAAPRSRSFLCGDPRPELV
RNC SAPFPNGSASCPENAARRCAPATFAGLVLVGLGVATVKANITPFGADQVKDRGPEATRFFFNW
FYWSINLGAILSLGGIAYIQQNVSFFTGYLIPTVCVAIAFLVFLCGQSVFITKPPDGSAFTDMFRILTYSC
CSQRGGQRRSGEGLGVFQQSSKHSLFDSCKMSRGGPFTEDEKVEDVKALVKIVPVFLALIPYWTVYF
QMOTTYALQSLHLKIPEISSITTHHTLPAAWLTMFDAVLILLIPLKDKLVDPVLR RHGLLPSSLKRIAV
GMFFVMCSAFAAGILESKRLDLVKEKTINQTIGGVVYHAADLPWWQIPQYVLIGISEIFASIAGLEFAY
SAAPKSMQSAIMGLFFFFSGIGSFVGSGLLALVSLKAIGWMSSHTDFGNINSCHLHYYFFLLAAIQGA
TLLLFLIVSVKYDRQRARTDGGPASTRT

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 Solute carrier family 15 member 4 (Peptide/histidine transporter 1) 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: Proton-coupled amino-acid transporter that mediates the transmembrane transport of L-histidine and some di- and tripeptides from inside the lysosome to the cytosol, and plays a key role in innate immune response (PubMed:19570976, PubMed:21277849, PubMed:25238095, PubMed:27845049, PubMed:29305823). Preferably binds to short peptides with a basic residue at the first position and a hydrophobic residue at the second position (By similarity). Able to transport a variety of di- and tripeptides, including carnosine and some peptidoglycans (PubMed:29784761). Transporter activity is pH-dependent and maximized in the acidic lysosomal environment (By similarity). Involved in the detection of microbial pathogens by toll-like receptors (TLRs) and NOD-like receptors (NLRs), probably by mediating transport of bacterial peptidoglycans across the endolysosomal membrane: catalyzes the transport of certain bacterial peptidoglycans, such as muramyl dipeptide (MDP), the NOD2 ligand, and L-alanyl-gamma-D-glutamyl-meso-2,6-diaminoheptanedioate (tri-DAP), the NOD1 ligand (PubMed:19570976, PubMed:23028315, PubMed:24695226, PubMed:25238095, PubMed:29784761). Required for TLR7, TLR8 and TLR9-mediated type I interferon (IFN-I) productions in plasmacytoid dendritic cells (pDCs) (PubMed:21045126, PubMed:23382217, PubMed:25238095, PubMed:30262916). Independently of its transporter activity, also promotes the recruitment of innate immune adapter TASL to endolysosome downstream of TLR7, TLR8 and TLR9: TASL recruitment leads to the specific recruitment and activation of IRF5 (By similarity). Required for isotype class switch recombination to IgG2c isotype in response to TLR9 stimulation (PubMed:25310967). Required for mast cell secretory-granule homeostasis by limiting mast cell functions and inflammatory responses (PubMed:29155995).

Subcellular Localization: Lysosome membrane ; Multi-pass membrane protein . Endosome membrane ; Multi-pass membrane protein . Early endosome membrane ; Multi-pass membrane protein .

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.