Recombinant S15A4 protein (His tag)

Catalog Number	545440
Synonyms	Peptide transporter 4; Peptide/histidine transporter 1; hPHT1
Species	Human
Expression System	E. coli
Accession	Q8N697
Molecular Weight	Predictes a molecular mass of 9.84 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 10 kDa band.

Product Information

Sequence Region	243-317
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>85%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 243-317 aa (Q8N697) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	This recombinant protein product features a 75-amino acid fragment (residues 243-317) of the human Solute carrier family 15 member 4 (SLC15A4), also known as Peptide transporter 4 or hPHT1. This fragment has been computationally selected for optimal stability and solubility, making it an ideal tool for structural studies and biochemical characterization of this critical lysosomal transporter involved in immune response pathways. The full-length SLC15A4 protein is a proton-coupled amino-acid transporter located primarily in the lysosomal membrane, with additional presence in endosomal and early endosome membranes. It functions as a key mediator in transporting L-histidine and various di- and tripeptides, including carnosine and bacterial peptidoglycans, from the lysosomal lumen to the cytosol. This transporter plays a crucial role in innate immune response by facilitating the detection of microbial pathogens through toll-like receptors (TLRs) and NOD-like receptors (NLRs), particularly by transporting ligands such as muramyl dipeptide (MDP) for NOD2 and tri-DAP for NOD1. Beyond its transport function, SLC15A4 independently promotes the recruitment of innate immune adapter TASL to endolysosomes downstream of TLR7, TLR8, and TLR9 signaling, leading to IRF5 activation and type I interferon production in plasmacytoid dendritic cells. The protein's activity is pH-dependent and optimized in acidic lysosomal environments, highlighting its specialized role in immune surveillance and inflammatory response regulation.