Recombinant SHIP1 protein (His tag)

Catalog Number	545607
Synonyms	Inositol polyphosphate-5-phosphatase D; Inositol polyphosphate-5-phosphatase of 145 kDa; SIP-145; Phosphatidylinositol 4,5-bisphosphate 5-phosphatase; SH2 domain-containing inositol 5'-phosphatase 1; SH2 domain-containing inositol phosphatase 1; SHIP-1; p150Ship; hp51CN
Species	Human
Expression System	E. coli
Accession	Q92835
Molecular Weight	Predictes a molecular mass of 13.55 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 14 kDa band.

Product Information

Sequence Region	1-103
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, 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 1-103 aa (Q92835) 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	Introducing the recombinant human Phosphatidylinositol 3,4,5-trisphosphate 5-phosphatase 1 (INPP5D/SHIP-1) fragment (residues 1-103), a high-purity protein tool containing the complete SH2 domain. This fragment enables targeted investigation of SH2-mediated signaling mechanisms in PI3K pathway regulation, providing researchers with a specific reagent for studying domain-specific functions without interference from other protein regions. Phosphatidylinositol 3,4,5-trisphosphate 5-phosphatase 1 (INPP5D/SHIP-1) is a crucial regulator of phosphoinositide signaling that specifically hydrolyzes the 5-phosphate of phosphatidylinositol-3,4,5-trisphosphate (PtdIns(3,4,5)P3) to produce PtdIns(3,4)P2, thereby negatively regulating PI3K pathways. This enzyme plays a central role in terminating signal transduction from activating immune receptor systems, acting as a negative regulator of B-cell antigen receptor signaling, myeloid cell proliferation, mast cell degranulation, and integrin signaling in platelets. It also regulates neutrophil migration, phagocytosis, immune cell homeostasis, and mediates activin/TGF-beta-induced apoptosis. The protein localizes to the cytoplasm and translocates to the plasma membrane when activated, where it associates with membrane ruffles and rafts, often colocalizing with FC-gamma receptors. The SH2 domain contained within this fragment mediates protein-protein interactions critical for its regulatory functions in these diverse cellular processes.