

Recombinant Human SHIP1 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50893

Size: 10ug, 100ug

Protein Name: Phosphatidylinositol 3,4,5-trisphosphate 5-phosphatase 1 (EC 3.1.3.86) (Inositol polyphosphate-5-phosphatase D) (EC 3.1.3.56) (Inositol polyphosphate-5-phosphatase of 145 kDa) (SIP-145) (Phosphatidylinositol 4,5-bisphosphate 5-phosphatase) (EC 3.1.3.36) (SH2 domain-containing inositol 5'-phosphatase 1) (SH2 domain-containing inositol phosphatase 1) (SHIP-1) (p150Ship) (hp51CN)

Synonym: INPP5D, SHIP, SHIP1

UniProt ID: Q92835

UniProt Link: www.uniprot.org/uniprotkb/Q92835/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 1189 AA

Molecular Weight: 133 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MVPCWNHGNITRSKAEELLSRTGKDGSFLVRASESISRAYALCVLYRNCVYTYRILPNEDDKFTVQA
SEGVS MRFFTKLDQLIEFYKKENMGLVTHLQYPVPLEEEDTGDDPEEDTVESVSPPELPPRNIPLTA
SSCEAKEVPFSNENPRATETSRPSLSETLFQRLQSMDSGLPEEHLKAIQDYLTQLAQDSEFVKTG
SSSLPHLKKLTLLCKELYGEVIRTLPSLESLQRLFDQQLSPGLRPRPQVPGEANPINMVS KLSQLTS
LLSSIEDKVKALLHEGPESPHRPSLIPPVTFEVKAESLGIPQKMQLKVDVESGKLIKKSKDGSSEDKFY
SHKKILQLIKSQKFLNKLVLVETEKEKILRKEYVFADSKKREGFCQLLQQMKNKHSEQPEPDMITIFIG
TWNMGNAPPPKKITSWFLSKGQGKTRDSDADYIPHDYVIGTQEDPLSEKEWLEILKHSLQEITSVTF
KTVAIHTLWNIRIVVLAKPEHENRISHICTDNVKTGIANTLGNKGAVGVSFMFNGTSLGFVNSHLTSGS
EKKLRRNQNYMNILRFLALGDKKLSFPNITHRFTHLFWFGDLNRYVDLPTWEAETIIQKIKQQYADL
LSHDQLLTERREQKVFLHFEEEEITFAPTYRFERLTRDKYAYTKQKATGMKYNLPSWCDRVLWKS
YPLVHVVCQSYGSTSDIMTSDHSPVFATFEAGVTSQFVSKNGPGTVDSQGGQIEFLRCYATLKTQSQT
K FYLEFHSSCLESFVKSQEGENEEGSEGELVVKFGETLPKLPKPIISDPEYLLDQHILISIKSSDSDES
YGE GCIALRLEATETQLPIYTPLTHHGELTGHFQGEIKLQTSQGKTREKLYDFVKTERDESSGPKTLKSLTS
HDPMKQWEVTSRAPPCSGSSITEIINPNYMGVGPFGPPMPLHVKQTLSPDQQPTAWSYDQPPKDS
PLGPCRGESPTPPGQPPISP KFLPSTANRGLPPRTQESRPSDLGKNAGDTLPQEDLPLTKPEMF



ENPLYGSLSSFPKPAPRKDQESPKMPRKEPPPCPEPGILSPSIVLTKAQEADRGEGPGKQVPAPRLR
SFTCSSSAEGRAAGGDKSQGKPKTPVSSQAPVPAKRPIKPSRSEINQQTPPTPTPRPPLPVKSPAVL
HLQHSKGRDYRDNTELPHHGKHRPEEGPPGPLGRTAMQ

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 Phosphatidylinositol 3,4,5-trisphosphate 5-phosphatase 1 (EC 3.1.3.86) (Inositol polyphosphate-5-phosphatase D) (EC 3.1.3.56) (Inositol polyphosphate-5-phosphatase of 145 kDa) (SIP-145) (Phosphatidylinositol 4,5-bisphosphate 5-phosphatase) (EC 3.1.3.36) (SH2 domain-containing inositol 5'-phosphatase 1) (SH2 domain-containing inositol phosphatase 1) (SHIP-1) (p150Ship) (hp51CN) 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: Phosphatidylinositol (PtdIns) phosphatase 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 the PI3K (phosphoinositide 3-kinase) pathways (PubMed:10764818, PubMed:8723348, PubMed:8769125). Also, is able to hydrolyze the 5-phosphate of phosphatidylinositol-4,5-bisphosphate (PtdIns(4,5)P₃), 1D-myo-inositol 1,4,5-trisphosphate and inositol 1,3,4,5-tetrakisphosphate (PubMed:10764818, PubMed:40969890, PubMed:8769125, PubMed:9108392). Acts as a negative regulator of B-cell antigen receptor signaling. Mediates signaling from the FC-gamma-RIIB receptor (FCGR2B), playing a central role in terminating signal transduction from activating immune/hematopoietic cell receptor systems. Acts as a negative regulator of myeloid cell proliferation/survival and chemotaxis, mast cell degranulation, immune cells homeostasis, integrin alpha-IIb/beta-3 signaling in platelets and JNK signaling in B-cells. Regulates proliferation of osteoclast precursors, macrophage programming, phagocytosis and activation and is required for endotoxin tolerance. Involved in the control of cell-cell junctions, CD32a signaling in neutrophils and modulation of EGF-induced phospholipase C activity (PubMed:16682172). Key regulator of neutrophil migration, by governing the formation of the leading edge and polarization required for chemotaxis. Modulates FCGR3/CD16-mediated cytotoxicity in NK cells. Mediates the activin/TGF-beta-induced apoptosis through its Smad-dependent expression.

Subcellular Localization: Cytoplasm . Cell membrane ; Peripheral membrane protein . Membrane raft . Cytoplasm, cytoskeleton . Membrane ; Peripheral membrane protein . Note=Translocates to the plasma membrane when activated, translocation is probably due to different mechanisms depending on the stimulus and cell type. Translocates from the cytoplasm to membrane ruffles in a FCGR3/CD16-dependent manner. Colocalizes with FC-gamma-RIIB receptor (FCGR2B) or FCGR3/CD16 at membrane ruffles. Tyrosine phosphorylation may also participate in membrane localization.

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.