

Recombinant Rat SHPS1 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52432

Size: 10ug, 100ug

Protein Name: Tyrosine-protein phosphatase non-receptor type substrate 1 (SHP substrate 1) (SHPS-1) (Brain Ig-like molecule with tyrosine-based activation motifs) (Bit) (CD172 antigen-like family member A) (Inhibitory receptor SHPS-1) (Macrophage fusion receptor) (Macrophage membrane protein MFP150) (Signal-regulatory protein alpha-1) (Sirp-alpha-1) (CD antigen CD172a)

Synonym: Sirpa, Bit, Mfr, Ptpns1, Shps1, Sirp

UniProt ID: P97710

UniProt Link: www.uniprot.org/uniprotkb/P97710/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 509 AA

Molecular Weight: 56 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MEPAGPAPGRLGPLLFCLLLSASCFCAGASGKELKVTQADKSVSVAAGDSATLNCTVSSLTPVGPIK
WFKGEGQNRSPISYFIGGEHFPRITNVSDATKRNNMDFSICISNVTPEAGTYCYCVKFQKGIVEPDTE
IKSGGGTTLYVLAKPSSPEVSGPDSRGSPGQTVNFTCKSYGFSPRNITLKWLDGKELSHLETTISSK
SNVSYNISSTVSVKLSPEDIHSRVCEVAHVTLGRPLNGTANFSNIIRVSPTLKITQQPLTPASQVNL
CQVQKFYPKALQLNWLGNLSRTDKPEHFTDNRDGTNYTSLFLVNSSAHREDVVFTCQVEHDS
QPAITENHTVRAFAHSSSGSMETIPDNNAYYNWNVFIGVGVACALLVLLMAALYLLRIKQKKAKGS
TSSTRLHEPEKNAREITQIQDTNDINDITYADLNLPKEKKPAPRVPEPNNHTEYASJETGKLPRPEDTL
TYADLDMVHLNRAQPTPKPEPSFSEYASVQVQRK

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 Tyrosine-protein phosphatase non-receptor type substrate 1 (SHP substrate 1) (SHPS-1) (Brain Ig-like molecule with tyrosine-based activation motifs) (Bit) (CD172 antigen-like family member A) (Inhibitory receptor SHPS-1) (Macrophage fusion receptor) (Macrophage membrane protein MFP150) (Signal-regulatory protein alpha-1) (Sirp-alpha-1) (CD antigen CD172a) 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: Immunoglobulin-like cell surface receptor for CD47. Acts as docking protein and induces translocation of PTPN6, PTPN11 and other binding partners from the cytosol to the plasma membrane. Supports adhesion of cerebellar neurons, neurite outgrowth and glial cell attachment. May play a key role in intracellular signaling during synaptogenesis and in synaptic function. Involved in the negative regulation of receptor tyrosine kinase-coupled cellular responses induced by cell adhesion, growth factors or insulin. Mediates negative regulation of phagocytosis, mast cell activation and dendritic cell activation. CD47 binding prevents maturation of immature dendritic cells and inhibits cytokine production by mature dendritic cells. Plays a role in antiviral immunity and limits new world arenavirus infection by decreasing virus internalization (By similarity). Receptor for THBS1 (PubMed:24511121). Interaction with THBS1 stimulates phosphorylation of SIRPA (PubMed:24511121). In response to THBS1, involved in ROS signaling in non-phagocytic cells, stimulating NADPH oxidase-derived ROS production (PubMed:24511121).

Subcellular Localization: Membrane; Single-pass type I 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.