

Recombinant Human SIRPA Protein, C-His-tagged

Cat. No. SIRPA-019H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human SIRPA Protein with C-His tag was expressed in E. coli.
Species	Human
Source	E.coli
Description	SHP-substrate 1 (SHPS1, SIRPα) is a single-pass membrane protein and member of both the immunoglobulin superfamily and the signal regulatory protein (SIRP) family. Following growth hormone stimulation or integrin binding, SHPS1 is phosphorylated at several tyrosine residues within its cytoplasmic tail. These phosphorylation events promote association between SHPS1 and multiple signaling proteins, including SHP-1, SHP-2, Grb2 and Shc via their SH2 domains. Recruitment of SHP-1 and SHP-2 results in SHPS1 dephosphorylation and suppression of tyrosine kinase signaling. The tyrosine kinase JAK2 associates with SHPS1 via its carboxy terminus and phosphorylates SHPS1 in response to extracellular stimuli. Research studies show that Src associates with and may phosphorylate SHPS1 in response to insulin. In macrophages, SHPS1 can form a complex with the Src pathway adaptor protein SKAP2, Fyn-binding protein FYB, and the tyrosine kinase PYK2. The SHPS1 extracellular domain contains at least three IgG-like domains that interact with CD47, a ubiquitously expressed, integrin-associated protein that acts as a repressive cue in both immune and neuronal cells. The interaction between CD47 and SHPS1 on opposing cells can inhibit cellular migration, promote "tethering" between macrophages and target cells during engulfment, facilitate self versus non-self recognition, and maintain immune homeostasis (12). SHPS1 plays a critical role in

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modulating the immune response and inflammation, and may play a role in neuronal development. The interaction between SHPS1 and CD47 may be an exploitable target in cancer therapy.

Molecular Mass ~38 kDa

AA Sequence

EEELQVIQPDKSVLVAAGETATLRCTATSLIPVGPIQWFRGAGPGRELIYNQKEGHFP
RVTTVSDLTKRNNMDFSIRIGNITPADAGTYICVKFRKGSPDDVEFKSGAGTELSVR
AKPSAPVVGSPAARATPQHTVSFTCESHGFSRDLTKWFKNGNELSDFQTNVDPV
GESVSYSIHSTAKVVLTRDVDHSQVICEVAHVTLQGDPLRGNTANLSETIRVPPTLEV
QQPVRAENQVNVTCQVRKFYPQRLQLTWLENGNVSRTEASTVTENKDGTYNWM
SWLLVNVSAHRDDVKLTCQVEHDGQPAVSKSHDLKVSHPKEQGSNTAAENTGSN
ERNIY

Purity

Transferred into competent cells and the supernatant was purified by NI column affinity chromatography and the purity is > 85% (by SDS-PAGE).

Notes

For research use only, not for use in diagnostic procedure.

Storage

Store at 4 centigrade short term. Aliquot and store at -20 centigrade long term. Avoid freeze-thaw cycles.

Concentration

≥0.5 mg/mL

Storage Buffer

PBS, 4M Urea, pH7.4

GENE INFORMATION

Gene Name

SIRPA signal-regulatory protein alpha [Homo sapiens (human)]

Official Symbol

SIRPA

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Synonyms SIRPA; signal-regulatory protein alpha; protein tyrosine phosphatase, non receptor type substrate 1 , PTPNS1; tyrosine-protein phosphatase non-receptor type substrate 1; BIT; CD172a; MFR; MYD 1; P84; SHPS 1; SHPS1; SIRP; SIRP ALPHA 1; SIRPalpha; SIRPalpha2; myd-1 antigen; inhibitory receptor SHPS-1; macrophage fusion receptor; CD172 antigen-like family member A; tyrosine phosphatase SHP substrate 1; brain-immunoglobulin-like molecule with tyrosine-based activation motifs; MYD-1; CD172A; PTPNS1;

Gene ID 140885

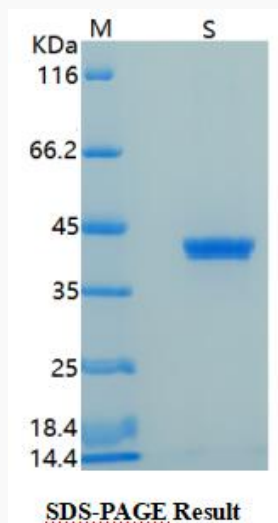
mRNA Refseq NM_001040022

Protein Refseq NP_001035111

MIM 602461

UniProt ID P78324

SDS-PAGE



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