# Recombinant Human SIRPA Protein, C-His-tagged

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

## SPECIFICATION

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| **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 RVTTVSDLTKRNNMDFSIRIGNITPADAGTYYCVKFRKGSPDDVEFKSGAGTELSVR AKPSAPVVSGPAARATPQHTVSFTCESHGFSPRDITLKWFKNGNELSDFQTNVDPV GESVSYSIHSTAKVVLTREDVHSQVICEVAHVTLQGDPLRGTANLSETIRVPPTLEVT QQPVRAENQVNVTCQVRKFYPQRLQLTWLENGNVSRTETASTVTENKDGTYNWM SWLLVNVSAHRDDVKLTCQVEHDGQPAVSKSHDLKVSAHPKEQGSNTAAENTGSN 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

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| **Gene Name** | SIRPA signal-regulatory protein alpha [ Homo sapiens (human) ] |
| **Official Symbol** | SIRPA |

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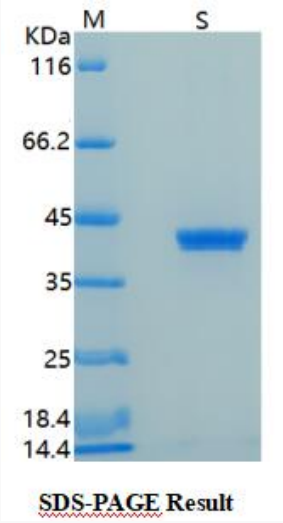
| **Synonyms** | SIRPA; signal-regulatory protein alpha; protein tyrosine phosphatase, non receptor type substrate 1 , PTPNS1; tyrosine-protein phosphatase non-receptor type substrate 1; BIT; CD172a; MFR; MYD 1; P84; SHPS 1; SHPS1; SIRP; SIRP ALPHA 1; SIRPalpha; SIRPalpha2; myd-1 antigen; inhibitory 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** |  <br>SDS-PAGE Result |

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