



### Synonym

SHPS1, SIRPA, CD172A, BIT, MFR, MYD1, P84, PTPNS1

### Source

Human SIRP alphaV2 Protein, His Tag (SI2-H52H9) is expressed from human 293 cells (HEK293). It contains AA Glu 31 - Arg 369 (Accession # [ATD50864.1](#)).

Predicted N-terminus: Glu 31

### Molecular Characterization

SIRP alpha(Glu 31 - Arg 369) ATD50864.1	Poly-his
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This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 39.0 kDa. The protein migrates as 55-66 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

### Endotoxin

Less than 0.1 EU per  $\mu$ g by the LAL method / rFC method.

### Purity

>95% as determined by SDS-PAGE.

### Formulation

Lyophilized from 0.22  $\mu$ m filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

### Reconstitution

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

### Storage

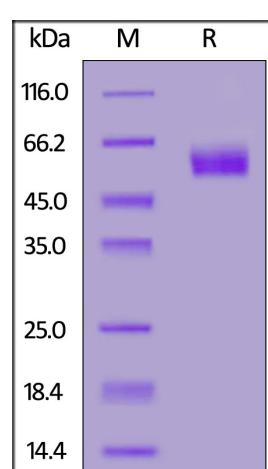
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

### SDS-PAGE



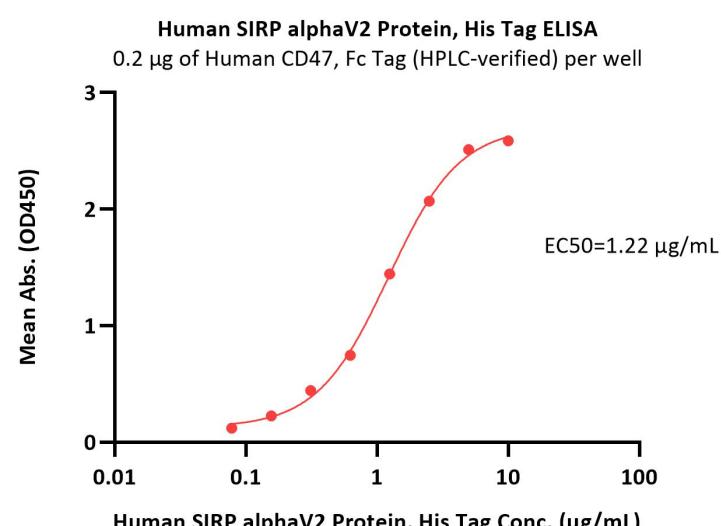
Human SIRP alphaV2 Protein, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

### Bioactivity-ELISA

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Immobilized Human CD47, Fc Tag (HPLC-verified) (Cat. No. CD7-H5256) at 2 µg/mL (100 µL/well) can bind Human SIRP alphaV2 Protein, His Tag (Cat. No. SI2-H52H9) with a linear range of 0.078-1.25 µg/mL (QC tested).

## Background

Tyrosine-protein phosphatase non-receptor type substrate 1 (SHPS1) is also known as CD172 antigen-like family member A (CD172a), Macrophage fusion receptor, MyD-1 antigen, Signal-regulatory protein alpha (SIRPA or SIRP alpha) or p84, is a member of the SIRP family, and also belongs to the immunoglobulin superfamily. SIRP alpha is Ubiquitous and highly expressed in brain. SIRPA / CD172a is immunoglobulin-like cell surface receptor for CD47 and acts as docking protein and induces translocation of PTPN6, PTPN11 and other binding partners from the cytosol to the plasma membrane. SIRPA / SHPS-1 supports adhesion of cerebellar neurons, neurite outgrowth and glial cell attachment and may play a key role in intracellular signaling during synaptogenesis and in synaptic function. By similarity, SIRPA / MyD1 involved in the negative regulation of receptor tyrosine kinase-coupled cellular responses induced by cell adhesion, growth factors or insulin and 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.

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