

**Synonym**

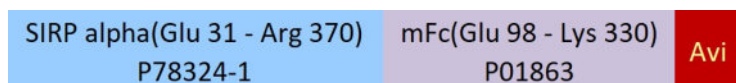
SHPS1,SIRPA,CD172A,BIT,MFR,MYD1,P84,PTPNS1

**Source**

Biotinylated Human SIRP alpha, Mouse IgG2a Fc,Avitag (SIA-H82A3) is expressed from human 293 cells (HEK293). It contains AA Glu 31 - Arg 370 (Accession # [P78324-1](#)).

Predicted N-terminus: Glu 31

**Molecular Characterization**



This protein carries a mouse IgG2a Fc tag at the C-terminus, followed by an Avi tag (Avitag™).

The protein has a calculated MW of 65.9 kDa. The protein migrates as 85-100 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

**Biotinylation**

*Biotinylation of this product is performed using Avitag™ technology. Briefly, the single lysine residue in the Avitag is enzymatically labeled with biotin.*

**Biotin:Protein Ratio**

Passed as determined by the HABA assay / binding ELISA.

**Endotoxin**

Less than 1.0 EU per µg by the LAL method.

**Purity**

>95% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

**Formulation**

Lyophilized from 0.22 µm filtered solution in 50 mM Tris, 100 mM Glycine, 25 mM Arginine, 150 mM NaCl, pH7.5. Normally trehalose is added as protectant before lyophilization.

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**

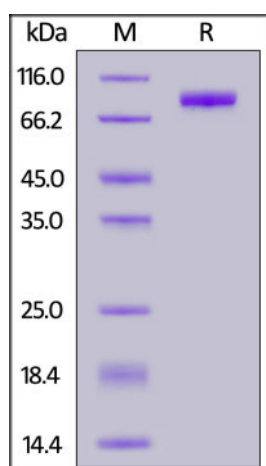
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

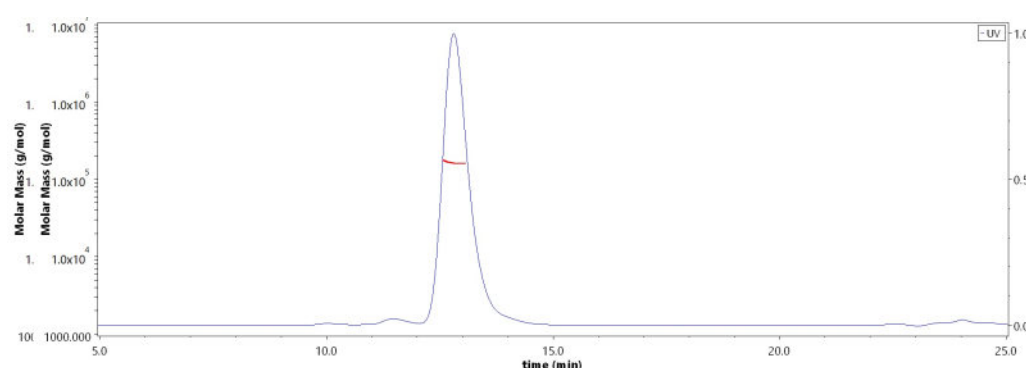
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

**SDS-PAGE**



Biotinylated Human SIRP alpha, Mouse IgG2a Fc,Avitag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

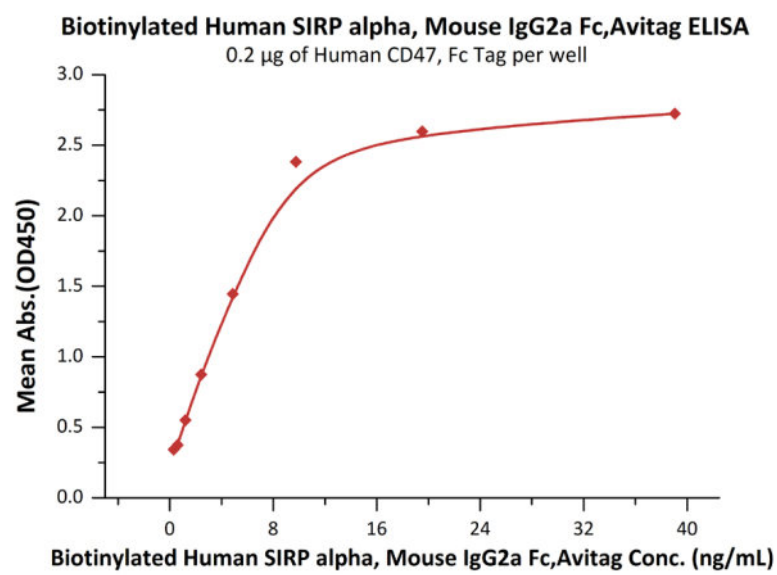
**SEC-MALS**



The purity of Biotinylated Human SIRP alpha, Mouse IgG2a Fc,Avitag (Cat. No. SIA-H82A3) is more than 90% and the molecular weight of this protein is around 155-175 kDa verified by SEC-MALS.

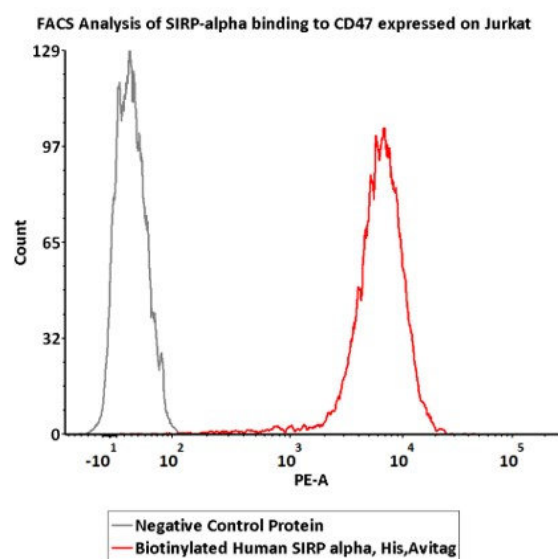
[Report](#)

**Bioactivity-ELISA**



Immobilized Human CD47, Fc Tag (Cat. No. [CD7-H5256](#)) at 2 µg/mL (100 µL/well) can bind Biotinylated Human SIRP alpha, Mouse IgG2a Fc,Avitag (Cat. No. [SIA-H82A3](#)) with a linear range of 0.6-10 ng/mL (QC tested).

### Bioactivity-FACS



FACS assay shows that Biotinylated Human SIRP alpha, Mouse IgG2a Fc,Avitag (Cat. No. [SIA-H82A3](#)) can bind to Jurkat cell expressing CD47. The concentration of SIRP alpha used is 10 µg/mL (Routinely 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.

### Clinical and Translational Updates

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.