

# SIRP $\alpha$

Catalog # PVGS1518

## Product Information

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<b>Primary Accession Species</b>	<a href="#">P78324</a> Human
<b>Sequence</b>	Glu31-Arg370
<b>Purity</b>	> 95% as analyzed by SDS-PAGE
<b>Endotoxin Level Biological Activity</b>	Immobilized SIRP $\alpha$ -His, Human at 2.0 $\mu$ g/ml (100 $\mu$ l/well), can bind CD47 Fc Chimera, Human (Cat. No.: Z03418) with a linear range of 0.25-185.0 ng/ml.
<b>Expression System</b>	HEK 293
<b>Formulation Reconstitution</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS, 5% trehalose and mannitol. It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH <sub>2</sub> O or PBS up to 100 $\mu$ g/ml.
<b>Storage &amp; Stability</b>	Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

## Additional Information

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<b>Gene ID</b>	140885
<b>Other Names</b>	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, MyD-1 antigen, Signal-regulatory protein alpha-1, Sirp-alpha-1, Signal-regulatory protein alpha-2, Sirp-alpha-2, Signal-regulatory protein alpha-3, Sirp-alpha-3, p84, CD172a, SIRPA, BIT, MFR, MYD1, PTPNS1, SHPS1, SIRP
<b>Target Background</b>	Signal regulatory protein alpha (SIRP $\alpha$ , designated CD172a), is also known as CD172 antigen-like family member A (CD172a), also called SHPS-1 (SHP substrate 1) and previously, MyD-1 (Myeloid/Dendritic-1), which is a monomeric about 90kDa type I transmembrane glycoprotein that belongs to the SIRP/SHPS (CD172) family of 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. SIRPα recognition of surfactants SP-A and SP-D in the lung can inhibit alveolar macrophage cytokine production.

## Protein Information

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<b>Name</b>	SIRPA
<b>Synonyms</b>	BIT, MFR, MYD1, PTPNS1, SHPS1, SIRP
<b>Function</b>	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 (By similarity). 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: <a href="#">24511121</a> ). Interaction with THBS1 stimulates phosphorylation of SIRPA (By similarity). In response to THBS1, involved in ROS signaling in non-phagocytic cells, stimulating NADPH oxidase-derived ROS production (PubMed: <a href="#">24511121</a> ).
<b>Cellular Location</b>	Membrane; Single-pass type I membrane protein.
<b>Tissue Location</b>	Ubiquitous. Highly expressed in brain. Detected on myeloid cells, but not T-cells. Detected at lower levels in heart, placenta, lung, testis, ovary, colon, liver, small intestine, prostate, spleen, kidney, skeletal muscle and pancreas

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