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# SIRPA Antibody (Ascites)

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM1820a

## Product Information

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| **Application** | WB, IHC-P, E |
| **Primary Accession** | P78324 |
| **Reactivity** | Human |
| **Host** | Mouse |
| **Clonality** | Monoclonal |
| **Isotype** | IgMκ |
| **Clone Names** | 82CT1.10.2.5 |
| **Calculated MW** | 54967 |

## Additional Information

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| **Gene ID** | 140885 |
| **Other Names** | 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 |
| **Target/Specificity** | This SIRPA Monoclonal antibody is generated from mouse immunized with SIRPA recombinant protein. |
| **Dilution** | WB~~1:500~16000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS. |
| **Storage** | Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| **Precautions** | SIRPA Antibody (Ascites) is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | SIRPA |

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| **Synonyms** | BIT, MFR, MYD1, PTPNS1, SHPS1, SIRP |
| **Function** | 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:24511121). 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:24511121). |
| **Cellular Location** | Membrane; Single-pass type I membrane protein. |
| **Tissue Location** | 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 |

## Background

The protein encoded by this gene is a member of the signal-regulatory-protein (SIRP) family, and also belongs to the immunoglobulin superfamily. SIRP family members are receptor-type transmembrane glycoproteins known to be involved in the negative regulation of receptor tyrosine kinase-coupled signaling processes. This protein can be phosphorylated by tyrosine kinases. The phospho-tyrosine residues of this PTP have been shown to recruit SH2 domain containing tyrosine phosphatases (PTP), and serve as substrates of PTPs. This protein was found to participate in signal transduction mediated by various growth factor receptors. CD47 has been demonstrated to be a ligand for this receptor protein. This gene and its product share very high similarity with several other members of the SIRP family. These related genes are located in close proximity to each other on chromosome 20p13. Multiple alternatively spliced transcript variants have been determined for this gene.

## References

SIRPalpha1 receptors interfere with the EGFRvIII signalosome to inhibit glioblastoma cell transformation and migration. Kapoor GS, et al. Oncogene, 2010 Jul 22. PMID 20473329.
Self inhibition of phagocytosis: the affinity of 'marker of self' CD47 for SIRPalpha dictates potency of inhibition but only at low expression levels. Tsai RK, et al. Blood Cells Mol Dis, 2010 Jun 15. PMID 20299253.
Insulin-like growth factor-I-stimulated insulin receptor substrate-1 negatively regulates Src homology 2 domain-containing protein-tyrosine phosphatase substrate-1 function in vascular smooth muscle cells. Radhakrishnan Y, et al. J Biol Chem, 2010 May 21. PMID 20207740.
The role of glucocorticoid in SIRP alpha and SHP-1 gene expression in AIHA patients. de Almeida AC, et al. Immunopharmacol Immunotoxicol, 2009. PMID 19874234.
A genome-wide meta-analysis identifies 22 loci associated with eight hematological parameters in the HaemGen consortium. Soranzo N, et al. Nat Genet, 2009 Nov. PMID 19820697.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.