abcam

ab95644

Biotin Anti-SIRP alpha antibody [P84]

Anti-SIRP alpha antibody [P84] conjugated to Biotin - suitable for flow cytometry, and reacts with mouse samples. Clone [P84] is a rat monoclonal antibody and one of the most commonly used clones for flow cytometry.

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Key facts

Isotype	IgG1
Host species	Rat
Conjugation	Biotin
Storage buffer	pH: 7.2 Preservative: 0.09% Sodium azide Constituents: PBS, 0.1% Gelatin
Form	Liquid
Clonality	Monoclonal
Immunogen	Tissue preparation containing Sirpa protein. The exact immunogen used to generate this antibody is proprietary information. Database link P97797
Clone number	P84
Purification technique	Affinity purification Protein G
Light chain type	kappa
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Mouse
Dilution info	0.125-0.25 µg for 10^5-10^8 Cells
Notes	A final volume of 100 µl is recommended for staining the cell sample. ab18403 - Rat monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Target data

See full target information Sirpa

Function	Immunoglobulin-like cell surface receptor for CD47 (PubMed:18045614). Acts as a 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. 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 (By similarity). Plays a role in antiviral immunity and limits new world arenavirus infection by decreasing virus internalization (PubMed:30726215). Receptor for THBS1 (By similarity). 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 (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab95644 has been reported to have neutralizing activity.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	SIRP alpha also known as CD172a is a transmembrane receptor protein with a mass ranging between 70-110 kDa due to glycosylation. This protein extensively expresses on the surface of myeloid cells neurons and a subset of T-cells and is part of the immunoglobulin superfamily. SIRP alpha interacts with its ligand CD47 a widely expressed glycoprotein involved in immune response regulation. Its mechanical action primarily involves signal regulation through the recruitment of SHP-1 and SHP-2 two cytoplasmic tyrosine phosphatases.
Biological function summary	SIRP alpha functions significantly in the regulation of phagocytosis acting as a "don't eat me" signal to macrophages upon binding with CD47. It does not act alone; rather it is part of a complex that recruits SHP-1 and SHP-2 leading to inhibition of dephosphorylation activities essential for engulfment processes. This regulatory mechanism is important for maintaining cellular homeostasis ensuring that healthy cells are not mistakenly destroyed by the immune system.
Pathways	SIRP alpha plays an important role in the innate immune pathways involving the regulation of phagocytosis and cell-cell adhesion. Particularly it fits into the immune checkpoint pathways where it interacts closely with proteins like CD47 and plays a role in the interaction between the immune system and cancer cells. Through these pathways SIRP alpha helps maintain balance in the immune response allowing for the recognition of self versus non-self therefore preventing autoimmunity while facilitating the clearance of pathogens.
Associated diseases and disorders	SIRP alpha is implicated in cancer and autoimmune diseases. In cancer its interaction with CD47 allows tumor cells to escape phagocytosis promoting tumor survival and growth. In autoimmune disorders dysregulated SIRP alpha expression or signaling could miscommunicate immune signals leading to the destruction of healthy tissue. Understanding the link between SIRP alpha and these conditions can reveal potential targets for therapeutic development especially using inhibitors or modulators targeting the SIRP alpha-CD47 interaction.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

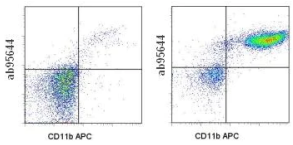
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1 product image



Flow Cytometry - Biotin Anti-SIRP alpha antibody [P84] (ab95644)

SIRP alpha Flow Cytometry staining using rat Anti-SIRP alpha antibody

Staining of C57BL/6 bone marrow cells with with Anti-Mouse CD11b APC and 0.125 µg of ab95644, follwed by Streptavidin PE. Cells in the lymphoid (left) or myeloid (right) gates were used for analysis.

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