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Product Information

Monoclonal Anti-SIRP α /CD172a

Clone SE5A5

produced in mouse, purified immunoglobulin

Catalog Number **S1572**

Product Description

Monoclonal Anti-SIRP α (mouse IgG1 isotype) is derived from the hybridoma SE5A5 produced by the fusion of mouse myeloma cells (SP2/0) and splenocytes from BALB/c mice immunized with a recombinant fusion protein containing the whole extracellular domain of SIRP α 1 (Gene ID: 140885).¹ The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-SIRP α recognizes human SIRP α .¹⁻³ The antibody may be used in flow cytometry analysis,¹⁻³ inhibition of cell adhesion,^{1,3} and immunoprecipitation^{1,2} (~90 kDa). The antibody can recognize viable monocytes, granulocytes, dendritic cells, stem cells, myeloid cell lines, and cells transfected with SIRP α 1.

Signal-regulatory proteins (SIRPs), also known as SHPS-1 (src homology 2 domain-containing phosphatase substrate-1), BIT (brain immunoglobulin Ig-like molecule with a tyrosine-based activation motif), P84, and MFR (macrophage fusion receptor), are transmembrane glycoprotein family members involved in receptor tyrosine kinase coupled signaling pathways. This family of receptors contains a large extracellular region with three Ig-like loops. The SIRP family is involved in adhesive processes, fusion of macrophages and binding of SIRP⁺ dendritic cells (DCs) to CD4⁺ T cells.⁵⁻⁶ The subfamily SIRP α members display two immunoreceptor tyrosine-based inhibitory motifs (ITIMs) that are responsible for the recruitment of src homology 2 domain-containing phosphatases SHP-1 and SHP-2. Thus, they can negatively regulate signal transduction cascades. However, it can positively regulate mitogen-activated protein kinase (MAPK) pathway in response to insulin and potentiate integrin-induced MAPK activation. The CD47 is an integrin-associated protein (IAP) that serves as an extracellular ligand for human SIRP α 1 and SIRP α 2.⁵⁻⁶

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~2 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Flow cytometry: a working concentration of 1-2 μ g per test is recommended using human blood.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

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3. Florian, S., et al., *J. Leuko. Biol.*, **77**, 984-992 (2005).
4. Vogel, W., et al., *Hematol. J. Hematol.*, **88**, 126-133 (2003).
5. Oshima, K., et al., *FEBS Lett.*, **519**, 1-7 (2002).
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