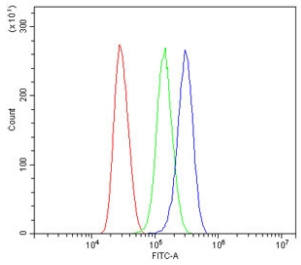
ARG1 Antibody for FACS / Arginase-1 Flow Cytometry Antibody [clone 2B12] (RQ5861)

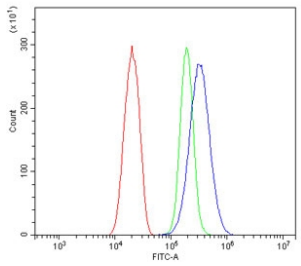
Catalog No.	Formulation	Size
RQ5861	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

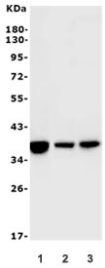
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat, Monkey
Format	Antigen affinity purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b
Clone Name	2B12
Purity	Affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	P05089
Applications	Western Blot : 0.5-1ug/ml Flow Cytometry : 1-3ug/million cells
Limitations	This ARG1 antibody is available for research use only.



ARG1 Antibody for FACS (clone 2B12) flow cytometry analysis of human Jurkat cells. Flow cytometry testing of human Jurkat cells stained with the mouse monoclonal ARG1 Antibody for FACS at 1ug per million cells shows a clear fluorescence shift (blue) relative to the isotype control (green), indicating intracellular detection of Arginase-1 (ARG1). Cells were blocked with goat sera prior to antibody incubation. Red trace represents unstained cells, green trace represents isotype control staining, and blue trace represents staining with the ARG1 antibody, demonstrating specific detection of ARG1-positive cells by flow cytometry.



ARG1 Antibody for FACS (clone 2B12) flow cytometry analysis of human SiHa cells. Flow cytometry testing of human SiHa cells stained with the mouse monoclonal ARG1 Antibody for FACS at 1ug per million cells demonstrates a rightward fluorescence shift of the ARG1 antibody signal (blue) relative to the isotype control (green), indicating detection of intracellular Arginase-1 (ARG1). Cells were blocked with goat sera prior to antibody incubation. The red trace represents unstained cells, the green trace represents the isotype control, and the blue trace represents staining with the ARG1 antibody, confirming specific ARG1 detection by flow cytometry.



Western blot testing of 1) rat liver, 2) mouse liver and 3) monkey liver lysate with ARG1 antibody. Predicted molecular weight ~35 kDa.

Description

Arginase-1 (ARG1), encoded by the ARG1 gene and also known as liver arginase or arginine ureahydrolase, is a cytosolic enzyme that catalyzes the final step of the urea cycle by converting L-arginine into urea and ornithine. This metabolic reaction is essential for ammonia detoxification and nitrogen metabolism in hepatocytes and contributes to arginine metabolism in multiple cell types. ARG1 Antibody for FACS (clone 2B12) enables detection of arginase-1 protein by flow cytometry, allowing quantitative analysis of ARG1 expression within individual cells in heterogeneous populations.

Flow cytometry provides a powerful approach for measuring intracellular protein expression at the single-cell level. Using ARG1 Antibody for FACS, researchers can evaluate arginase-1 expression within specific cell populations after fixation and permeabilization. The antibody binds intracellular ARG1 protein and can be detected using fluorescent secondary antibodies, enabling analysis of ARG1-positive cells using fluorescence-based flow cytometric detection.

ARG1 expression is strongly enriched in hepatocytes where the urea cycle functions to remove excess nitrogen generated during amino acid metabolism. Flow cytometry detection of arginase-1 can therefore be used to analyze hepatocyte-derived cells or liver-associated cell populations. Fluorescence-based detection also enables quantitative measurement of ARG1 expression levels across cell populations, supporting studies of metabolic enzyme regulation and hepatocyte biology.

In addition to hepatocytes, arginase-1 expression has been reported in certain immune cell populations involved in metabolic regulation of the microenvironment. Flow cytometry-based analysis allows researchers to measure ARG1 expression within immune cell subsets, enabling investigation of arginine metabolism in immune regulation and cellular signaling pathways. The ability to measure ARG1 at the single-cell level makes flow cytometry particularly useful for studying heterogeneous cell populations.

Flow cytometry experiments using ARG1 Antibody for FACS allow researchers to identify ARG1-positive cells, quantify protein expression levels, and compare expression across experimental conditions. Fluorescent antibody labeling enables rapid multiparameter analysis, making flow cytometry an effective approach for studying arginase-1 expression within complex cell mixtures.

ARG1 Antibody for FACS (clone 2B12) is a mouse monoclonal antibody developed for flow cytometry applications targeting arginase-1 protein. Detection of ARG1 using this antibody supports studies investigating arginine metabolism, hepatocyte-associated metabolic pathways, and single-cell analysis of arginase-1 expression using flow cytometric techniques.

Application Notes

Optimal dilution of the ARG1 Antibody for FACS should be determined by the researcher.

Immunogen

Recombinant human protein (amino acids E25-D183) was used as the immunogen for the ARG1 antibody.

Storage

After reconstitution, the ARG1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Arginase-1 antibody, ARG1 antibody, Liver arginase antibody, Arginine ureahydrolase antibody