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Anti-liver Arginase/ARG1 Antibody Picoband™ (monoclonal, 2B12)

Catalog # ABO14971

Product Information

Application	WB, FC
Primary Accession	P05089
Host	Mouse
Isotype	Mouse IgG2b
Reactivity	Rat, Human, Mouse, Monkey
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-liver Arginase/ARG1 Antibody Picoband™ (monoclonal, 2B12) . Tested in Flow Cytometry, WB applications. This antibody reacts with Human, Monkey, Mouse, Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500 □g/ml.

Additional Information

Gene ID	383
Other Names	Arginase-1, 3.5.3.1, Liver-type arginase, Type I arginase, ARG1
Calculated MW	34735
Application Details	Western blot, 0.1-0.5 □g/ml, Monkey, Mouse, Rat Flow Cytometry, 1-3 □/1x10^6 cells, Human
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.01mg NaN3.
Clone Names	Clone: 2B12
Immunogen	E.coli-derived human liver Arginase/ARG1 recombinant protein (Position: E25-D183).
Purification	Immunogen affinity purified.
Storage	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.

Protein Information

Name	ARG1
Function	Catalyzes the final step of the urea cycle by hydrolyzing L- arginine into urea, a nitrogenous waste product, and L-ornithine, a precursor to proline and polyamines; the urea cycle occurs primarily in the liver and, to a lesser extent, in the kidneys.
Cellular Location	Cytoplasm, cytosol. Cytoplasmic granule. Note=Localized in azurophil granules of neutrophils (PubMed:15546957)
Tissue Location	Within the immune system, initially reported to be selectively expressed in granulocytes (polymorphonuclear leukocytes [PMNs]) (PubMed:15546957). Also detected in macrophages in mycobacterial granulomas (PubMed:23749634). Expressed in group2 innate lymphoid cells (ILC2s) during lung disease (PubMed:27043409)

Background

ARG1 (arginase, live) is a cytosolic enzyme and expressed predominantly in the liver as a component of the urea cycle. The isoform encoded byARG1, referred to as the liver, or A-I, isoform, contributes 98% of the arginase activity in liver but is also present in red cells. Using a rat liverARG1cDNA clone to probe a human liver cDNA library,Haraguchi et al. (1987)isolated and characterized a cDNA corresponding to theARG1gene.The ARG1 gene is mapped on 6q23.2 and the arginase gene contains 8 exons. By immunologic studies, 90% of the arginase in red blood cell and liver was precipitated by the antibody, whereas only 50% of the arginase in kidney, brain, and the gastrointestinal tract reacted with it. Inherited deficiency of this enzyme results in argininemia, an autosomal recessive disorder characterized by hyperammonemia. Two transcript variants encoding different isoforms have been found for this gene.

Images

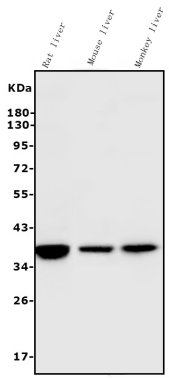
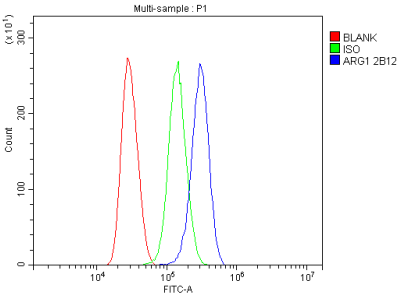


Figure 1. Western blot analysis of liver Arginase/ARG1 using anti-liver Arginase/ARG1 antibody (M01106-4). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: rat liver tissue lysates,
Lane 2: mouse liver tissue lysates,
Lane 3: monkey liver tissue lysates.
After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-liver Arginase/ARG1 antigen affinity purified monoclonal antibody (Catalog # M01106-4) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for liver Arginase/ARG1 at approximately 35KD. The expected band size for liver Arginase/ARG1 is at 35KD.

Figure 2. Flow Cytometry analysis of Jurkat cells using anti-liver Arginase/ARG1 antibody (M01106-4).



Overlay histogram showing Jurkat cells stained with M01106-4 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-liver Arginase/ARG1 Antibody (M01106-4, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

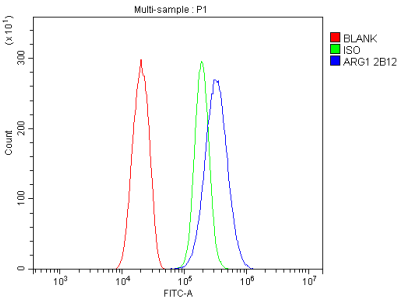


Figure 3. Flow Cytometry analysis of SiHa cells using anti-liver Arginase/ARG1 antibody (M01106-4).
Overlay histogram showing SiHa cells stained with M01106-4 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-liver Arginase/ARG1 Antibody (M01106-4, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

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