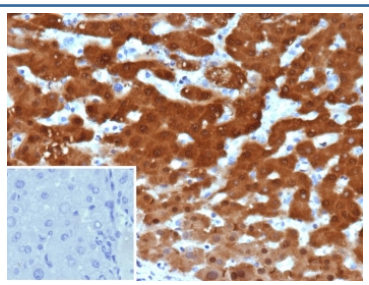
Arginase 1 Antibody Mouse Monoclonal ARG1/9448 / ARG1 Antibody [clone ARG1/9448] (V5755)

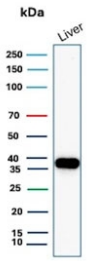
Catalog No.	Formulation	Size
V5755-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5755-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5755SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

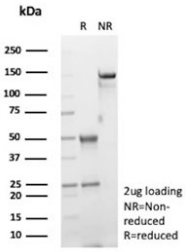
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2a, kappa
Clone Name	ARG1/9448
Purity	Protein G affinity
UniProt	P05089
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml Western Blot : 2-4ug/ml
Limitations	This Arginase 1 antibody is available for research use only.



Arginase 1 Antibody Mouse Monoclonal ARG1/9448 immunohistochemistry of human hepatocellular carcinoma. Formalin-fixed, paraffin-embedded human hepatocellular carcinoma tissue stained with the mouse monoclonal Arginase 1 Antibody ARG1/9448 shows strong cytoplasmic HRP-DAB brown chromogenic staining in malignant hepatocyte-derived tumor cells, consistent with the known hepatic expression and cytosolic localization of Arginase-1 (ARG1), a key urea cycle enzyme involved in arginine metabolism. The inset shows a PBS-only negative control processed without primary antibody, demonstrating minimal non-specific background staining. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min followed by cooling prior to antibody incubation.



Arginase 1 Antibody Mouse Monoclonal ARG1/9448 western blot analysis of human liver lysate. Lane 1: human liver tissue lysate. A band is detected at approximately 35 kDa, consistent with the predicted molecular weight of Arginase-1 (ARG1), a cytosolic urea cycle enzyme highly enriched in hepatocytes and responsible for the conversion of L-arginine to urea and ornithine in hepatic nitrogen metabolism.



SDS-PAGE analysis of purified, BSA-free Arginase 1 antibody (clone ARG1/9448) as confirmation of integrity and purity.

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 hydrolyzing L-arginine to produce urea and L-ornithine. This reaction is essential for ammonia detoxification and nitrogen metabolism, particularly within hepatocytes where the urea cycle operates at high capacity. Arginase 1 Antibody Mouse Monoclonal ARG1/9448 recognizes ARG1 protein and supports research investigating hepatic metabolism, urea cycle function, and arginine catabolism.

Arginase-1 belongs to the arginase enzyme family and functions as a manganese-dependent hydrolase localized primarily in the cytoplasm. Through its catalytic activity, ARG1 converts excess nitrogen generated during amino acid metabolism into urea for excretion while producing ornithine, a precursor for polyamine and proline biosynthesis pathways. Because of this metabolic function, ARG1 is strongly enriched in hepatocytes and represents one of the most characteristic metabolic enzymes of liver tissue.

ARG1 protein expression is predominantly localized in hepatocytes within normal liver parenchyma. The high abundance of arginase-1 in these cells reflects the central role of the liver in systemic nitrogen metabolism and ammonia detoxification. Detection of ARG1 protein is therefore widely used in studies examining hepatocyte biology, metabolic enzyme expression, and pathways regulating nitrogen metabolism.

Arginase-1 expression has also been widely investigated in hepatocyte-derived tumors, particularly hepatocellular carcinoma. Many hepatocellular tumor cells retain ARG1 expression due to their origin from hepatocytes and the persistence of metabolic pathways associated with liver differentiation. Detection of ARG1 protein therefore supports studies examining hepatocyte lineage, liver tumor biology, and metabolic enzyme expression in liver-associated malignancies.

The ARG1 enzyme contains catalytic residues coordinated with manganese ions that enable hydrolysis of arginine to produce urea and ornithine. This biochemical reaction represents a central component of the hepatic urea cycle and is critical for maintaining nitrogen balance in mammalian physiology. Because of the strong hepatocyte enrichment of arginase-1, antibodies targeting ARG1 provide valuable tools for studying liver-specific metabolic pathways and hepatocyte differentiation.

Arginase 1 Antibody Mouse Monoclonal ARG1/9448 is a monoclonal antibody developed to detect arginase-1 protein in research applications. Detection of ARG1 using this antibody supports studies focused on liver metabolism, hepatocyte biology, and molecular pathways associated with arginine metabolism and nitrogen detoxification.

Application Notes

Optimal dilution of the Arginase 1 Antibody Mouse Monoclonal ARG1/9448 should be determined by the researcher.

Immunogen

A recombinant human ARG1 partial protein (within amino acids 11-97) was used as the immunogen for the Arginase 1 antibody.

Storage

Aliquot the Arginase 1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

Arginase 1 Antibody Mouse Monoclonal ARG1/9448 | ARG1 |V5755