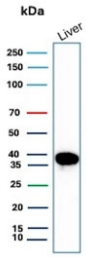
Liver Arginase Antibody / Arginase-1 ARG1 Antibody [clone ARG1/9447] (V5754)

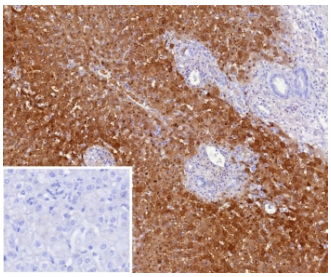
Catalog No.	Formulation	Size
V5754-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5754-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5754SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

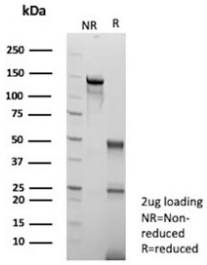
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2a, kappa
Clone Name	ARG1/9447
Purity	Protein G affinity
UniProt	P05089
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml Western Blot : 2-4ug/ml
Limitations	This Liver Arginase antibody is available for research use only.



Liver Arginase Antibody (clone ARG1/9447) 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.



Liver Arginase Antibody (clone ARG1/9447) immunohistochemistry of human hepatocellular carcinoma. Formalin-fixed, paraffin-embedded human hepatocellular carcinoma tissue stained with the mouse monoclonal Liver Arginase Antibody (clone ARG1/9447) 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.



SDS-PAGE analysis of purified, BSA-free Liver Arginase antibody (clone ARG1/9447) as confirmation of integrity and purity.

Description

Arginase-1 (ARG1), encoded by the ARG1 gene and commonly referred to as liver arginase or arginine ureahydrolase, is a cytosolic enzyme that catalyzes the final step of the hepatic urea cycle by hydrolyzing L-arginine to produce urea and L-ornithine. This reaction is essential for ammonia detoxification and nitrogen metabolism in hepatocytes, making ARG1 a central metabolic enzyme in liver physiology. Liver Arginase Antibody (clone ARG1/9447) detects arginase-1 protein and supports studies investigating hepatic metabolism, urea cycle activity, and hepatocyte-associated metabolic pathways.

Arginase-1 belongs to the arginase enzyme family and functions as a manganese-dependent hydrolase localized primarily in the cytoplasm. Through its enzymatic activity, ARG1 converts excess nitrogen generated from amino acid metabolism into urea for excretion while generating ornithine for downstream metabolic processes including polyamine biosynthesis. Because of this metabolic role, ARG1 expression is strongly enriched in hepatocytes and represents one of the most characteristic metabolic enzymes of liver tissue.

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

Arginase-1 expression has also been studied extensively in hepatocyte-derived tumors, particularly hepatocellular carcinoma. Many hepatocellular tumor cells retain ARG1 expression, reflecting their origin from hepatocytes and the persistence of metabolic pathways associated with liver differentiation. Detection of ARG1 protein therefore supports research investigating hepatocyte lineage and liver tumor biology.

The ARG1 enzyme contains catalytic residues coordinated with manganese ions that enable hydrolysis of arginine to urea and ornithine. This biochemical reaction is an essential component of the urea cycle and plays a key role in maintaining metabolic balance in the liver. Because ARG1 expression is strongly associated with hepatocyte metabolic activity, antibodies targeting arginase-1 provide valuable tools for studying liver-specific metabolic pathways.

Liver Arginase Antibody (clone ARG1/9447) is a mouse monoclonal antibody developed to recognize arginase-1 protein in research applications. Detection of ARG1 using this antibody supports studies focused on liver metabolism, hepatocyte differentiation, and molecular pathways involved in arginine catabolism and nitrogen detoxification.

Application Notes

Optimal dilution of the Liver Arginase Antibody should be determined by the researcher.

Immunogen

A portion of amino acids 1-200 from human ARG1 protein was used as the immunogen for the Liver Arginase antibody.

Storage

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

Alternate Names

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