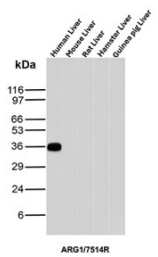
ARG1 Antibody ARG1/7514R / Arginase 1 Rabbit Monoclonal [clone ARG1/7514R] (V5183)

Catalog No.	Formulation	Size
V5183-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5183-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5183SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

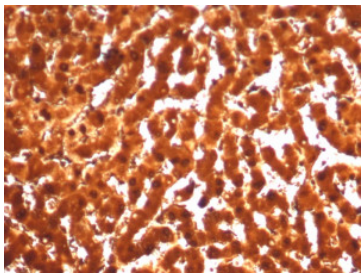
Recombinant RABBIT MONOCLONAL

Bulk quote request

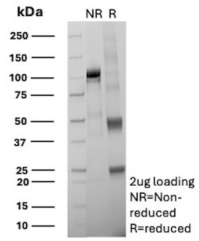
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	ARG1/7514R
Purity	Protein A/G affinity
UniProt	P05089
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT Western blot: 2-4ug/ml
Limitations	This ARG1 Antibody ARG1/7514R is available for research use only.



ARG1 Antibody ARG1/7514R by WB in Human and Animal Liver Lysates. Western blot analysis of human, mouse, rat, hamster, and guinea pig liver tissue lysates using ARG1 Antibody ARG1/7514R. Lane 1: human liver; lane 2: mouse liver; lane 3: rat liver; lane 4: hamster liver; lane 5: guinea pig liver. A prominent immunoreactive band is detected at approximately 35-38 kDa in human liver, consistent with the expected molecular weight of arginase 1. No corresponding bands are visible in the four animal liver lysates under the conditions tested, supporting human-selective recognition by this recombinant rabbit monoclonal antibody.



ARG1 Antibody ARG1/7514R by IHC in Human Liver. Immunohistochemistry of FFPE human liver tissue using ARG1 Antibody ARG1/7514R. Strong brown DAB staining is observed throughout the hepatocyte cytoplasm, with relatively uniform expression across the hepatic parenchyma. The staining pattern is consistent with the abundant expression of arginase 1 in hepatocytes, where it catalyzes the final reaction of the urea cycle. Heat-induced epitope retrieval was performed by boiling tissue sections in 10 mM Tris with 1 mM EDTA, pH 9, for 20 minutes, followed by cooling before antibody incubation.



ARG1 Antibody ARG1/7514R by SDS-PAGE. SDS-PAGE analysis of purified ARG1 Antibody ARG1/7514R under non-reducing (NR) and reducing (R) conditions. The non-reducing lane shows a prominent band migrating near 100-110 kDa, while the reducing lane displays bands near 50 kDa and 25 kDa, corresponding to the expected immunoglobulin heavy and light chains. The image demonstrates the electrophoretic profile of the purified recombinant rabbit monoclonal antibody under the two conditions.

Description

ARG1 Antibody ARG1/7514R recognizes arginase 1, a manganese-dependent enzyme encoded by the ARG1 gene. Also known as arginase I or liver arginase, this cytosolic protein catalyzes the hydrolysis of L-arginine into L-ornithine and urea. ARG1 performs the final enzymatic step of the hepatic urea cycle, allowing excess nitrogen to be eliminated through urea production. The protein functions as a homotrimer composed of approximately 35 kDa subunits and is particularly abundant in hepatocytes. Its mitochondrial counterpart, arginase 2 (ARG2), performs a similar catalytic reaction but differs in tissue distribution, intracellular localization, and physiological regulation.

Arginase 1 is an established marker of hepatocellular differentiation and is widely investigated in hepatocellular carcinoma (HCC). Normal hepatocytes generally exhibit abundant cytoplasmic ARG1 expression, while many hepatocellular tumors retain detectable protein expression. Immunohistochemical detection of ARG1 can help distinguish hepatocellular carcinoma from metastatic carcinomas and other primary liver malignancies. The marker is frequently evaluated alongside HepPar-1 and glypican-3 to improve the interpretation of hepatic tumors. However, ARG1 expression may decrease in poorly differentiated HCC, and staining results should be interpreted alongside other markers and tissue morphology.

Beyond hepatic nitrogen metabolism, ARG1 influences immune responses by regulating the availability of extracellular L-arginine. The enzyme is associated with certain macrophage populations and myeloid-derived suppressor cells, where increased arginase activity can contribute to reduced T cell proliferation and altered immune function. ARG1 is consequently studied in tumor-associated macrophages, immune suppression, inflammatory responses, and tissue repair. Its expression in myeloid populations varies considerably between species, particularly between humans and mice, making experimental context important when evaluating immune cell phenotypes.

ARG1 also contributes to ornithine-dependent pathways involved in polyamine synthesis and collagen production. Altered arginase activity has been investigated in fibrosis, vascular dysfunction, cancer metabolism, and chronic inflammation. Inherited ARG1 deficiency causes argininemia, a rare metabolic disorder associated with impaired urea cycle function and elevated circulating arginine. NSJ Bioreagents offers recombinant rabbit monoclonal clone ARG1/7514R, generated using a recombinant human ARG1 fragment within amino acids 300-400. An ARG1 Antibody ARG1/7514R provides a useful reagent for investigating hepatic arginine metabolism, hepatocellular differentiation, and ARG1-associated disease mechanisms.

Explore our protein microarray-validated Arginase 1 Antibody ARG1/1125 for investigating ARG1 expression, hepatocellular differentiation, and arginine metabolism.

Application Notes

Optimal dilution of the ARG1 Antibody ARG1/7514R should be determined by the researcher.

Immunogen

A recombinant human protein fragment (within amino acids 300-400) was used as the immunogen for the ARG1 antibody.

Storage

Aliquot the ARG1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

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