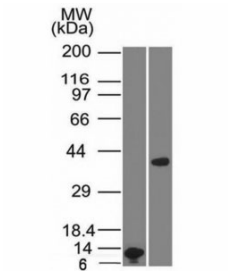
Arginase 1 Antibody ARG1/1125 / ARG1 Monoclonal Antibody [clone ARG1/1125] (V2651)

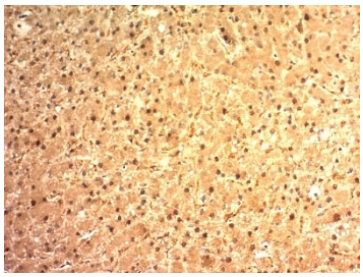
Catalog No.	Formulation	Size
V2651-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2651-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2651SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2651IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

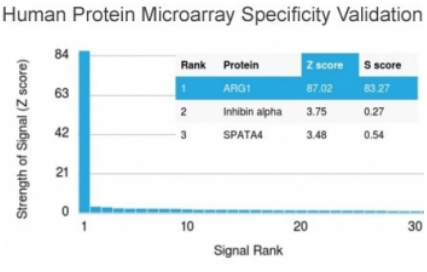
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG3, kappa
Clone Name	ARG1/1125
Purity	Protein G affinity chromatography
UniProt	P05089
Localization	Cytoplasmic
Applications	Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 2-4ug/ml for 30 min at RT
Limitations	This Arginase 1 Antibody ARG1/1125 / ARG1 Monoclonal Antibody is available for research use only.



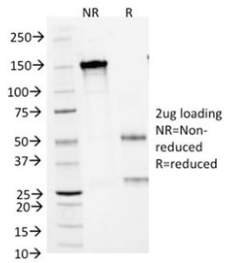
Arginase 1 Antibody ARG1/1125 by WB in Recombinant ARG1 and Human Liver. Western blot analysis using Arginase 1 Antibody ARG1/1125 to detect recombinant ARG1 protein and endogenous arginase 1 in human liver lysate. Lane A: partial recombinant human ARG1 protein; lane B: human liver lysate. The recombinant protein produces a prominent band near 14 kDa, consistent with its truncated composition, while endogenous ARG1 is detected at approximately 35-38 kDa, consistent with the predicted molecular weight of 35 kDa. The results demonstrate recognition of both recombinant and endogenous ARG1, supporting the antibody's utility for investigating arginine metabolism and hepatocellular differentiation.



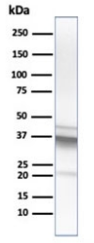
Arginase 1 Antibody ARG1/1125 by IHC in Human Hepatocellular Carcinoma. Immunohistochemistry of FFPE human hepatocellular carcinoma tissue using Arginase 1 Antibody ARG1/1125. Brown DAB staining is observed predominantly in the cytoplasm of tumor cells, with variable staining intensity throughout the tissue. The staining pattern is consistent with the cytoplasmic localization of ARG1 and its established role as a marker of hepatocellular differentiation. Nuclei are counterstained blue with hematoxylin. Heat-induced epitope retrieval was performed by boiling tissue sections in 10 mM Tris with 1 mM EDTA, pH 9, for 10-20 minutes.



Arginase 1 Antibody ARG1/1125 by Protein Microarray. Protein microarray specificity analysis of Arginase 1 Antibody ARG1/1125 using a HuProt human protein microarray containing more than 19,000 full-length proteins. ARG1 produces the strongest binding signal and ranks as the top target, with a Z-score of approximately 72.7. The substantial separation between ARG1 and other detected proteins demonstrates preferential recognition of the intended target. The Z-score represents signal intensity relative to the array background, while the S-score reflects separation between ranked protein signals. These results support high target specificity for ARG1 under the conditions tested.



Arginase 1 Antibody ARG1/1125 by SDS-PAGE. SDS-PAGE analysis of purified, BSA-free Arginase 1 Antibody ARG1/1125 under non-reducing (NR) and reducing (R) conditions, with 2 ug of antibody loaded per lane. Under non-reducing conditions, the intact IgG migrates at approximately 150 kDa. The reducing lane does not show clearly resolved heavy and light chains in the displayed image, so their molecular weights cannot be independently confirmed. The prominent intact antibody band is consistent with the expected molecular structure of an IgG preparation.



Arginase 1 Antibody ARG1/1125 by WB in Human Liver. Western blot analysis of human liver lysate using Arginase 1 Antibody ARG1/1125. A prominent immunoreactive band is observed at approximately 35 kDa, consistent with the predicted molecular weight of arginase 1. ARG1 is a cytosolic enzyme highly expressed in hepatocytes, where it catalyzes the conversion of L-arginine into ornithine and urea during the final step of the urea cycle. The observed band supports detection of endogenous ARG1 in human liver tissue, making this antibody useful for studying hepatic arginine metabolism and hepatocellular differentiation.

Description

Arginase 1 Antibody ARG1/1125 recognizes arginase 1 (ARG1), a cytosolic enzyme that catalyzes the hydrolysis of L-arginine into L-ornithine and urea. Encoded by the ARG1 gene on chromosome 6, this manganese-dependent enzyme is highly expressed in hepatocytes, where it performs the final step of the urea cycle. By converting ammonia-derived nitrogen into urea for excretion, ARG1 plays an essential role in nitrogen metabolism and maintaining metabolic homeostasis. The enzyme functions as a homotrimer, with individual subunits having a molecular weight of approximately 35 kDa.

Arginase 1 is an important diagnostic marker of hepatocellular differentiation and is widely used in immunohistochemistry to identify hepatocellular carcinoma (HCC). Its strong expression in normal hepatocytes and many hepatocellular tumors makes it valuable for distinguishing HCC from metastatic carcinomas and other primary liver malignancies. ARG1 is frequently evaluated alongside markers such as HepPar-1 and glypican-3 to improve diagnostic interpretation. Although highly associated with hepatocellular differentiation, ARG1 expression can vary in poorly differentiated tumors and is not entirely exclusive to hepatocellular tissue.

Beyond its hepatic functions, ARG1 participates in immune regulation through its effects on L-arginine availability. The enzyme is expressed in certain myeloid cell populations, including alternatively activated macrophages and myeloid-derived suppressor cells. Increased arginase activity can reduce extracellular arginine concentrations, potentially limiting T cell proliferation and effector function. ARG1 is therefore investigated in tumor-associated macrophages, immunosuppressive myeloid cells, and inflammatory conditions involving altered immune metabolism. However, ARG1 expression patterns differ between human and mouse myeloid populations, making species-specific interpretation important.

ARG1 also contributes to pathways involving polyamine synthesis, collagen production, and tissue repair through the generation of ornithine. Dysregulation of arginase activity has been studied in cancer, chronic inflammation, fibrosis, and metabolic disorders. Inherited ARG1 deficiency causes argininemia, a rare urea cycle disorder characterized by impaired arginine metabolism and progressive neurological complications. NSJ Bioreagents offers clone ARG1/1125, a monoclonal antibody supported by western blot, immunohistochemistry, and protein microarray validation. An Arginase 1 Antibody provides a useful tool for investigating hepatocellular differentiation, arginine metabolism, macrophage biology, and cancer-associated immune regulation.

Explore our selection of Cancer Marker Antibodies for investigating hepatocellular differentiation, tumor biomarkers, and protein expression in cancer research.

Application Notes

Optimal dilution of the Arginase 1 Antibody ARG1/1125 / ARG1 Monoclonal Antibody should be determined by the researcher.

1. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

A recombinant fragment from amino acids 1-150 of human ARG1 was used as the immunogen for the Arginase 1 Antibody ARG1/1125.

Storage

Store the Arginase 1 Antibody ARG1/1125 at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

ARG1 antibody, Arginase I antibody, Liver Arginase antibody, Arginase Type 1 antibody, Hepatic Arginase antibody, Arginase-1 antibody, L-Arginine Ureohydrolase antibody

Copyright © NSJ Bioreagents. All rights reserved.