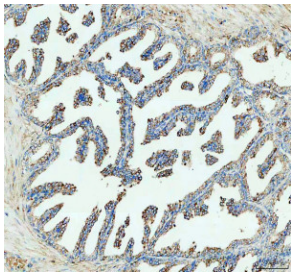
Arginase 2 Antibody / Mitochondrial Arginase Antibody (RQ5703)

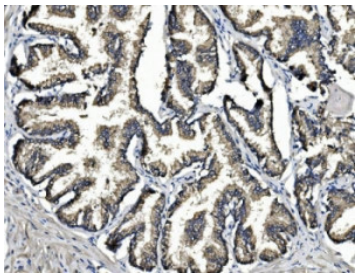
Catalog No.	Formulation	Size
RQ5703	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

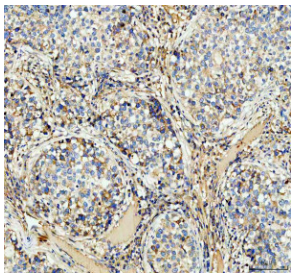
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Purity	Affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P78540
Localization	Cytoplasmic
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry: 1-2ug/ml Immunofluorescence: 2-4ug/ml Flow cytometry: 1-3ug/million cells Direct ELISA: 0.1-0.5ug/ml
Limitations	This Arginase 2 Antibody / Mitochondrial Arginase Antibody is available for research use only.



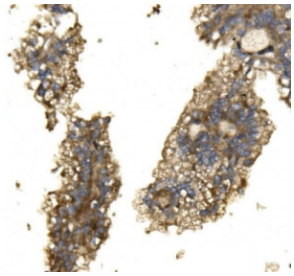
Arginase 2 Antibody Human Prostate Cancer IHC. IHC staining of FFPE human prostate cancer tissue using Arginase 2 Antibody. Heat-induced epitope retrieval was performed in EDTA buffer (pH 8.0), followed by blocking with 10% goat serum. The tissue was incubated with the antibody at 2 ug/ml overnight at 4Â°C, followed by peroxidase-conjugated goat anti-rabbit IgG and DAB detection. Positive ARG2 staining is observed in prostate tumor cells. This Arginase 2 Antibody, also called Mitochondrial Arginase Antibody, demonstrates ARG2 expression in human prostate cancer tissue and supports studies of mitochondrial arginine metabolism and cancer metabolic biology.



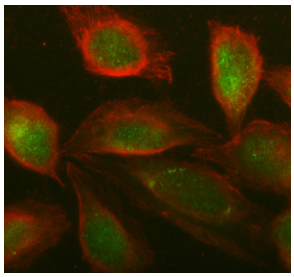
Arginase 2 Antibody Human Prostate Cancer Epithelial IHC. IHC staining of FFPE human prostate cancer tissue using Arginase 2 Antibody. Heat-induced epitope retrieval was performed by boiling tissue sections in EDTA buffer (pH 8.0) for 20 minutes, followed by cooling prior to staining. Positive ARG2 staining is observed in the glandular tumor epithelium, with comparatively limited staining in the surrounding stroma. This Arginase 2 Antibody, also called Mitochondrial Arginase Antibody, demonstrates ARG2 expression in human prostate cancer tissue and supports studies of mitochondrial arginine metabolism and tumor biology.



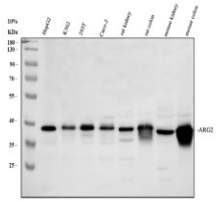
Arginase 2 Antibody Human Lung Cancer IHC. IHC staining of FFPE human lung cancer tissue using Arginase 2 Antibody. Heat-induced epitope retrieval was performed in EDTA buffer (pH 8.0), followed by blocking with 10% goat serum. The tissue was incubated with the antibody at 2 ug/ml overnight at 4Â°C, followed by peroxidase-conjugated goat anti-rabbit IgG and DAB detection. Positive ARG2 staining is observed in tumor cells. This Arginase 2 Antibody, also called Mitochondrial Arginase Antibody, demonstrates ARG2 expression in human lung cancer tissue and supports studies of mitochondrial arginine metabolism and tumor metabolic biology.



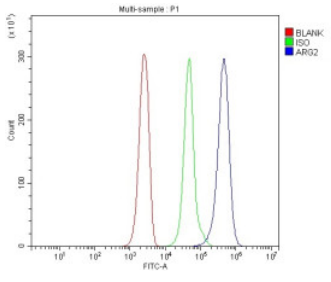
Arginase 2 Antibody Human Renal Cancer IHC. IHC staining of FFPE human renal cancer tissue using Arginase 2 Antibody. Heat-induced epitope retrieval was performed by boiling tissue sections in EDTA buffer (pH 8.0) for 20 minutes, followed by cooling prior to staining. Positive cytoplasmic ARG2 staining is observed in tumor cells. This Arginase 2 Antibody, also called Mitochondrial Arginase Antibody, demonstrates ARG2 expression in human renal cancer tissue and supports studies of arginine metabolism and kidney tumor biology.



Arginase 2 Antibody U2OS Cell IF. Immunofluorescent staining of human U2OS cells using Arginase 2 Antibody and an Alpha Tubulin Antibody. Cells underwent enzyme antigen retrieval for 15 minutes, were blocked with 10% goat serum and incubated with both primary antibodies at 5 ug/ml overnight at 4Â°C. ARG2 was visualized with Fluoro488-conjugated secondary antibody (green), while alpha tubulin was detected with Fluoro594-conjugated secondary antibody (red). This Arginase 2 Antibody, also called Mitochondrial Arginase Antibody, demonstrates ARG2 expression in human U2OS cells and supports studies of mitochondrial arginine metabolism and subcellular protein expression.



Arginase 2 Antibody Human, Mouse and Rat WB. Western blot analysis of ARG2 in human HepG2, K562, 293T and Caco-2 cells, rat kidney and colon tissues, and mouse kidney and colon tissues using Arginase 2 Antibody. Samples (30 ug/lane) were separated by 10% SDS-PAGE under reducing conditions and transferred to nitrocellulose. Lanes 1-8: HepG2, K562, 293T, Caco-2, rat kidney, rat colon, mouse kidney and mouse colon, respectively. The membrane was incubated with the antibody at 0.5 ug/ml overnight at 4Â°C, followed by HRP-conjugated secondary antibody and ECL detection. A specific band was detected at approximately 39 kDa, consistent with the expected molecular weight of ARG2. This Arginase 2 Antibody, also called Mitochondrial Arginase Antibody, detects ARG2 across human, mouse and rat samples for studies of mitochondrial arginine metabolism.



Arginase 2 Antibody Jurkat Cell FACS. Flow cytometry analysis of fixed and permeabilized human Jurkat cells using Arginase 2 Antibody. Cells were blocked with 10% normal goat serum and incubated with the antibody at 1 ug/million cells for 30 minutes at 20Â°C, followed by Fluoro488-conjugated goat anti-rabbit IgG. The histogram shows ARG2 staining (blue), isotype control (green) and unstained cells (red). A strong fluorescence shift is observed with ARG2 staining relative to the isotype control. This Arginase 2 Antibody, also called Mitochondrial Arginase Antibody, detects intracellular ARG2 in human Jurkat cells by flow cytometry for studies of mitochondrial arginine metabolism.

Description

Arginase 2 Antibody / Mitochondrial Arginase Antibody recognizes ARG2, one of two mammalian arginase enzymes responsible for hydrolyzing L-arginine to ornithine and urea. Unlike the predominantly cytosolic and liver-associated ARG1 isoform, ARG2 contains an N-terminal mitochondrial targeting sequence and is localized primarily to mitochondria. ARG2 is expressed in numerous extrahepatic tissues, including kidney and several cell populations of the cardiovascular and immune systems. Its distinct subcellular localization and tissue distribution make Arginase 2 an important target for studies of arginine metabolism, mitochondrial biology and metabolic regulation.

ARG2 contributes to cellular L-arginine metabolism by competing for substrate that can also be utilized by nitric oxide synthases. Changes in arginase activity can therefore influence the availability of L-arginine for nitric oxide production. This relationship is particularly relevant in vascular biology, where increased ARG2 activity has been investigated in connection with reduced nitric oxide bioavailability, endothelial dysfunction and altered vascular homeostasis. An Arginase 2 Antibody can support research examining the relationship between mitochondrial arginine metabolism, nitric oxide signaling and cardiovascular cell function.

The ornithine generated through ARG2-mediated arginine hydrolysis can enter metabolic pathways involved in the production of polyamines and proline. These metabolites contribute to processes including cell proliferation, tissue remodeling and extracellular matrix biology. Through its effects on arginine availability and downstream metabolites, Mitochondrial Arginase can therefore influence cellular metabolism beyond urea production. ARG2 expression and activity have been investigated in metabolic disease, vascular dysfunction, kidney biology and other conditions in which altered amino acid metabolism contributes to changes in cellular physiology.

ARG2 is also relevant to immunology and cancer research. Arginine availability can influence the activity and metabolic state of immune cells, and arginase-dependent pathways participate in the regulation of inflammatory and immune responses. ARG2 expression has been studied in macrophages and other immune cell populations as well as within tumor-associated metabolic environments. Altered arginine metabolism can affect interactions between immune and tumor cells, making ARG2 relevant to studies of immunometabolism, inflammation and mechanisms that regulate antitumor immune responses.

As the mitochondrial member of the mammalian arginase family, ARG2 provides a useful target for distinguishing extrahepatic and mitochondrial arginine metabolism from the predominantly hepatic functions associated with ARG1. Its connections to nitric oxide production, ornithine metabolism, vascular function and immune regulation make it relevant across metabolic, cardiovascular, immunological and cancer research. NSJ Bioreagents supplies antibodies to ARG2 and other proteins involved in amino acid metabolism and cellular signaling. An Arginase 2 Antibody can support studies of mitochondrial arginase expression, arginine metabolism, nitric oxide signaling, vascular biology, immunometabolism and metabolic regulation.

For related targets associated with mitochondrial function, metabolism and organelle biology, explore our Mitochondria Marker Antibodies page.

Application Notes

Optimal dilution of the Arginase 2 Antibody / Mitochondrial Arginase Antibody should be determined by the researcher.

Immunogen

Recombinant human protein (amino acids M1-I354) was used as the immunogen for the Arginase 2 antibody.

Storage

After reconstitution, the Arginase 2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Arginase 2 antibody, ARG2 antibody, Mitochondrial arginase antibody, Arginase II antibody, Arginase type II antibody, Kidney-type arginase antibody

Copyright © NSJ Bioreagents. All rights reserved.