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Anti-Arg2 Antibody
Catalog # ABO11113

Specification

Anti-Arg2 Antibody - Product Information

Application	**WB, IHC-P**
Primary Accession	P78540
Host	**Rabbit**
Reactivity	**Human, Mouse, Rat**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Arginase-2, mitochondrial(ARG2) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Arg2 Antibody - Additional Information

Gene ID 384

Other Names
Arginase-2, mitochondrial, 3.5.3.1, Kidney-type arginase, Non-hepatic arginase, Type II arginase, ARG2

Calculated MW
38578 MW KDa

Application Details
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Rat, Mouse, By Heat
Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse

Subcellular Localization
Mitochondrion.

Tissue Specificity
Expressed most strongly in kidney and prostate, much less strongly in the brain, skeletal muscle, placenta, lung, mammary gland, macrophage, uterus, testis and gut, but apparently not in the liver, heart and pancreas.

Protein Name
Arginase-2, mitochondrial

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.

Immunogen
A synthetic peptide corresponding to a sequence at the N-terminus of human Arg2(67-85aa

DFGDLSFTPVPKDDLYNNL), different from the related mouse sequence by three amino acids and from the related rat sequence by two amino acids.

Purification
Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins

Storage

At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Sequence Similarities
Belongs to the arginase family.

Anti-Arg2 Antibody - Protein Information

Name ARG2

Function
May play a role in the regulation of extra-urea cycle arginine metabolism and also in down-regulation of nitric oxide synthesis. Extrahepatic arginase functions to regulate L-arginine bioavailability to nitric oxid synthase (NOS). Arginine metabolism is a critical regulator of innate and adaptive immune responses. Seems to be involved in negative regulation of the survival capacity of activated CD4(+) and CD8(+) T cells (PubMed:27745970). May suppress inflammation- related signaling in asthmatic airway epithelium (PubMed:27214549). May contribute to the immune evasion of H.pylori by restricting M1 macrophage activation and polyamine metabolism (By similarity). In fetal dendritic cells may play a role in promoting immune suppression and T cell TNF-alpha production during gestation (PubMed:28614294). Regulates RPS6KB1 signaling, which promotes endothelial cell senescence and inflammation and implicates NOS3/eNOS dysfunction (PubMed:22928666). Can inhibit endothelial autophagy independently of its enzymatic activity implicating mTORC2 signaling (PubMed:25484082). Involved in vascular smooth muscle cell senescence and apoptosis independently of its enzymatic activity (PubMed:23832324). Since NOS is found in the penile corpus cavernosum smooth muscle, the clitoral corpus cavernosum and the vagina, arginase-2 plays a role in both male and female sexual arousal (PubMed:12859189).

Cellular Location
Mitochondrion.

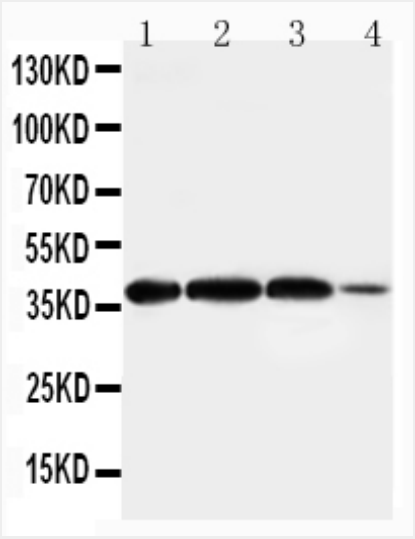
Tissue Location
Expressed most strongly in kidney and prostate, much less strongly in the brain, skeletal muscle, placenta, lung, mammary gland, macrophage, uterus, testis and gut, but apparently not in the liver, heart and pancreas. Expressed in activated T cells (PubMed:27745970).

Anti-Arg2 Antibody - Protocols

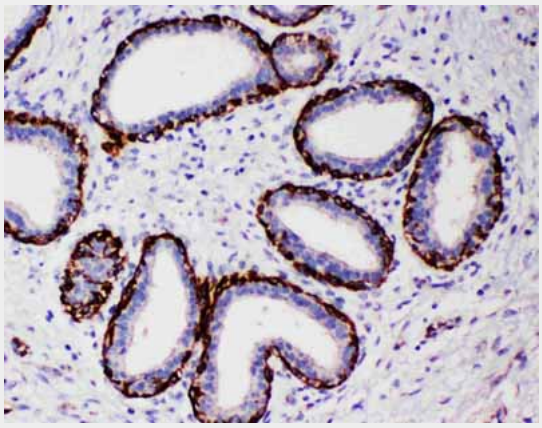
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-Arg2 Antibody - Images



Anti-Arg2 antibody, ABO11113, Western blottingLane 1: Rat Lung Tissue LysateLane 2: Rat Testis Tissue LysateLane 3: A549 Cell LysateLane 4:293T Cell Lysate



Anti-Arg2 antibody, ABO11113, IHC(P)IHC(P): Human Mammary Cancer Tissue

Anti-Arg2 Antibody - Background

ARG2(arginase, type II) encodes a 355-amino acid polypeptide.Â Using Northern blotting and RT-PCR,Â Vockley et al.(1996)Â found thatÂ ARG2Â is expressed as a 1.5-kb mRNA in a wide variety of tissues, with highest levels of expression in prostate, brain, and kidney.Â By PCR analysis of somatic cell hybrid panels, fluorescence in situ hybridization, and radiation hybrid analysis,Â theÂ ARG2 gene is mapped to 14q24.1-q24.3. ARG2Â may be inducible and may be

essential in the regulation of nitric oxide synthesis by modulating local arginine concentrations. Gotoh et al.(1996)Â showed thatÂ ARG2Â mRNA and nitric oxide synthase(NOS) mRNA were coinduced by lipopolysaccharide in a macrophage-like cell line. Arginase II has been implicated in the regulation of the arginine/ornithine concentrations in the cell. The mitochondrial location ofÂ ARG2Â and its coinduction with ornithine aminotransferase and involvement with proline biosynthesis in lactating rat mammary gland had led to the inference thatÂ ARG2Â is involved in biosynthetic functions, as opposed to the metabolic ones of the urea cycle.