

Arginase II Rabbit pAb

Catalog # AP98901

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	P78540
Other Accession	P78540
Reactivity	Human, Mouse
Predicted	Rat, Rabbit, Chicken, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	38578
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Arginase II
Epitope Specificity	181-290/354
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the arginase family.
SUBUNIT	Homotrimer.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Arginase I (also designated liver-type arginase), which is expressed almost exclusively in the liver, catalyzes the conversion of arginine to ornithine and urea (1). The human arginase I gene, which maps to chromosome 6q23, encodes a 322 amino acid protein. Arginase I exists as a homotrimeric protein and contains a binuclear manganese cluster (2-4). Arginase II catalyzes the same reaction as arginase I, but differs in its tissue specificity and subcellular location (5,6). Specifically, arginase II localizes to the mitochondria (5,6). Arginase II is expressed in non-hepatic tissues, with the highest levels of expression in the kidneys, but, unlike arginase I, is not expressed in liver (5,6). The human arginase II gene, which maps to chromosome 14q24.1, encodes a 354 amino acid protein (3,5-7). In addition, arginase II contains a putative amino-terminal mitochondrial localization sequence (5,6).

Additional Information

Gene ID	384
Other Names	AII; ARG12_HUMAN; ARG2; Arginase II; Kidney-type arginase; Non-hepatic arginase; Type II arginase; 3.5.3.1; ARG12_MOUSE; ARG12_RAT; arginase 2; arginase, type II
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,Flow-Cyt=1ug/Test Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When

Storage	reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
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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 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).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.