

arginase II (H-64): sc-20151

BACKGROUND

Arginase I (also designated liver-type arginase), which is expressed almost exclusively in the liver, catalyzes the conversion of arginine to ornithine and urea. 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. Arginase II catalyzes the same reaction as arginase I, but differs in its tissue specificity and subcellular location. Specifically, arginase II localizes to the mitochondria. 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. The human arginase II gene, which maps to chromosome 14q24.1, encodes a 354 amino acid protein. In addition, arginase II contains a putative amino-terminal mitochondrial localization sequence.

CHROMOSOMAL LOCATION

Genetic locus: ARG2 (human) mapping to 14q24.1; Arg2 (mouse) mapping to 12 C3.

SOURCE

arginase II (H-64) is a rabbit polyclonal antibody raised against amino acids 291-354 of arginase II of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

arginase II (H-64) is available conjugated to agarose (sc-20151 AC), 500 µg/0.25 ml agarose in 1 ml, for IP.

APPLICATIONS

arginase II (H-64) is recommended for detection of arginase II of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). arginase II (H-64) is also recommended for detection of arginase II in additional species, including canine and bovine.

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Suitable for use as control antibody for arginase II siRNA (h): sc-29729, arginase II siRNA (m): sc-29730, arginase II shRNA Plasmid (h): sc-29729-SH, arginase II shRNA Plasmid (m): sc-29730-SH, arginase II shRNA (h) Lentiviral Particles: sc-29729-V and arginase II shRNA (m) Lentiviral Particles: sc-29730-V.

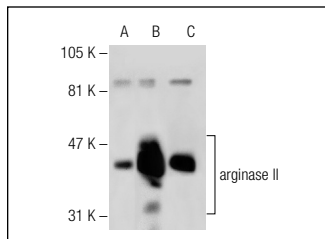
Molecular Weight of arginase II: 40 kDa.

Positive Controls: arginase II (h): 293T Lysate: sc-114274, T84 whole cell lysate: sc-364797 rat kidney extract: sc-2394

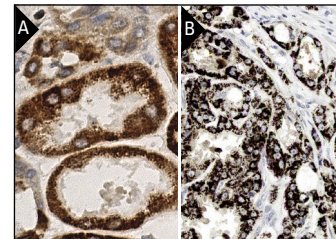
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



arginase II (H-64): sc-20151. Western blot analysis of arginase II expression in non-transfected 293T: sc-117752 (A), human arginase II transfected 293T: sc-114274 (B) and T84 (C) whole cell lysates.



arginase II (H-64): sc-20151. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate cancer tissue showing cytoplasmic staining of tumor cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

1. Cerutti, J.M., et al. 2004. A preoperative diagnostic test that distinguishes benign from malignant thyroid carcinoma based on gene expression. *J. Clin. Invest.* 113: 1234-1242.
2. Outtz, H.H., et al. 2010. Notch1 deficiency results in decreased inflammation during wound healing and regulates vascular endothelial growth factor receptor-1 and inflammatory cytokine expression in macrophages. *J. Immunol.* 185: 4363-4373.
3. Jin, Y., et al. 2010. Mice deficient in Mkp-1 develop more severe pulmonary hypertension and greater lung protein levels of arginase in response to chronic hypoxia. *Am. J. Physiol. Heart Circ. Physiol.* 298: H1518-H1528.
4. Amrouni, D., et al. 2011. Cerebral changes occurring in arginase and dimethylarginine dimethylaminohydrolase (DDAH) in a rat model of sleeping sickness. *PLoS ONE* 6: e16891.
5. Ming, X.F., et al. 2012. Arginase II promotes macrophage inflammatory responses through mitochondrial reactive oxygen species, contributing to Insulin resistance and atherogenesis. *J. Am. Heart Assoc.* 1: e000992.
6. Yepuri, G., et al. 2012. Positive crosstalk between arginase-II and S6K1 in vascular endothelial inflammation and aging. *Aging Cell* 11: 1005-1016.

RESEARCH USE

For research use only, not for use in diagnostic procedures.



Try **arginase II (A-10): sc-393496** or **arginase II (C-3): sc-374420**, our highly recommended monoclonal alternatives to arginase II (H-64). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **arginase II (A-10): sc-393496**.