

arginase II (L-20): sc-18357

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 (L-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus 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.

Blocking peptide available for competition studies, sc-18357 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

arginase II (L-20) 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 (L-20) is also recommended for detection of arginase II in additional species, including equine, canine, bovine and porcine.

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 (m): 293T Lysate: sc-118522, arginase II (h): 293T Lysate: sc-114274 or T84 whole cell lysate: sc-364797.

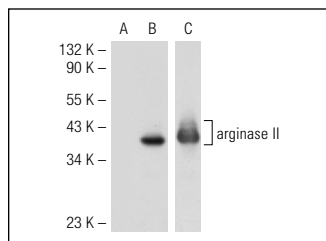
RESEARCH USE

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

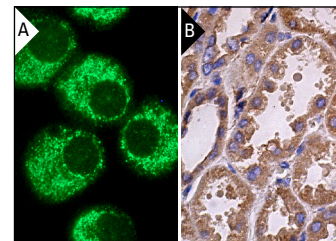
STORAGE

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

DATA



arginase II (L-20): sc-18357. Western blot analysis of arginase II expression in non-transfected: sc-117752 (A), mouse arginase II transfected: sc-118522 (B) and human arginase II transfected: sc-114274 (C) 293T whole cell lysates.



arginase II (L-20): sc-18357. Immunofluorescence staining of methanol-fixed RAW 264.7 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (B).

SELECT PRODUCT CITATIONS

1. Kojic, S., et al. 2004. The Ankrd2 protein, a link between the sarcomere and the nucleus in skeletal muscle. *J. Mol. Biol.* 339: 313-325.
2. North, M.L., et al. 2009. Functionally important role for arginase I in the airways hyperresponsiveness of asthma. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 296: L911-L920.
3. Gannon, P.O., et al. 2010. Androgen-regulated expression of arginase I, arginase II and Interleukin-8 in human prostate cancer. *PLoS ONE* 5: e12107.
4. Heusch, P., et al. 2010. Increased inducible nitric oxide synthase and arginase II expression in heart failure: no net nitrite/nitrate production and protein S-nitrosylation. *Am. J. Physiol. Heart Circ. Physiol.* 299: H446-H453.

PROTOCOLS

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