SANTA CRUZ BIOTECHNOLOGY, INC.

arginase I (N-20): sc-18351

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

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. 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. In addition, arginase II contains a putative amino-terminal mitochondrial localization sequence.

CHROMOSOMAL LOCATION

Genetic locus: ARG1 (human) mapping to 6q23.2; Arg1 (mouse) mapping to 10 A4.

SOURCE

arginase I (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of arginase I of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-18351 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

arginase I (N-20) is recommended for detection of arginase I 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 I (N-20) is also recommended for detection of arginase I in additional species, including porcine.

Suitable for use as control antibody for arginase I siRNA (h): sc-29728, arginase I siRNA (m): sc-29727, arginase I shRNA Plasmid (h): sc-29728-SH, arginase I shRNA Plasmid (m): sc-29727-SH, arginase I shRNA (h) Lentiviral Particles: sc-29728-V and arginase I shRNA (m) Lentiviral Particles: sc-29727-V.

Molecular Weight of arginase I isoforms: 35/38 kDa.

Positive Controls: arginase I (h): 293T Lysate: sc-159833 or mouse liver extract: sc-2256.

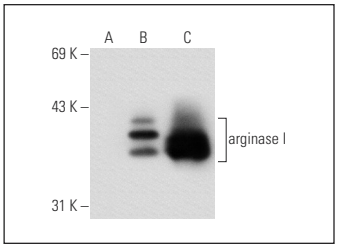
STORAGE

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

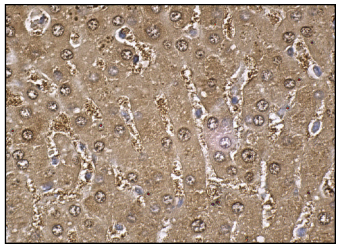
RESEARCH USE

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

DATA



arginase I (N-20): sc-18351. Western blot analysis of arginase I expression in non-transfected: sc-117752 (**A**) and human arginase I transfected: sc-159833 (**B**) 293T whole cell lysates and mouse liver tissue extract (**C**).



arginase I (N-20): sc-18351. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing nuclear and cytoplasmic staining of hepatocytes.

SELECT PRODUCT CITATIONS

1. Petrak, J., et al. 2007. Proteomic analysis of hepatic iron overload in mice suggests dysregulation of urea cycle, impairment of fatty acid oxidation, and changes in the methylation cycle. Am. J. Physiol. Gastrointest. Liver Physiol. 292: 1490-1498.
2. Eubank, T.D., et al. 2009. Granulocyte macrophage colony-stimulating factor inhibits breast cancer growth and metastasis by invoking an anti-angiogenic program in tumor-educated macrophages. Cancer Res. 69: 2133-2140.
3. North, M.L., et al. 2009. Functionally important role for arginase I in the airway hyperresponsiveness of asthma. Am. J. Physiol. Lung Cell. Mol. Physiol. 296: L911-L920.
4. Scalera, F., et al. 2009. Paradoxical effect of L-arginine: acceleration of endothelial cell senescence. Biochem. Biophys. Res. Commun. 386: 650-655.
5. North, M.L., et al. 2011. Augmentation of arginase I expression by exposure to air pollution exacerbates the airways hyperresponsiveness in murine models of asthma. Respir. Res. 12: 19.
6. Sun, S., et al. 2012. The ATP-P2X7 signaling axis is dispensable for obesity-associated inflammasome activation in adipose tissue. Diabetes 61: 1471-1478.
7. Teplova, I., et al. 2013. ATG proteins mediate efferocytosis and suppress inflammation in mammary involution. Autophagy 9: 459-475.
8. Chugh, D., et al. 2015. Alterations in brain inflammation, synaptic proteins, and adult hippocampal neurogenesis during epileptogenesis in mice lacking synapsin2. PLoS ONE 10: e0132366.