SANTA CRUZ BIOTECHNOLOGY, INC.

arginase I (M-20): sc-18355

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 (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-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-18355 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

arginase I (M-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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

arginase I (M-20) is also recommended for detection of arginase I in additional species, including equine, canine and 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.

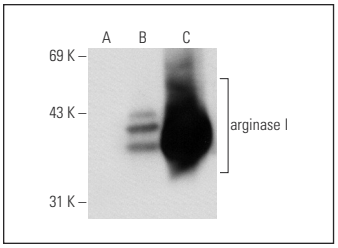
Molecular Weight of arginase I isoforms: 35/38 kDa.

Positive Controls: arginase I (m): 293T Lysate: sc-118520, arginase I (h): 293T Lysate: sc-159833 or mouse liver extract: sc-2256.

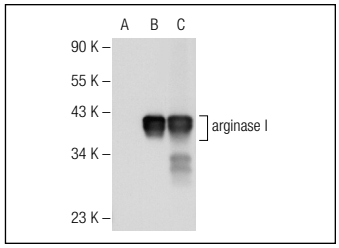
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



arginase I (M-20): sc-18355. 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 (M-20): sc-18355. Western blot analysis of arginase I expression in non-transfected: sc-117752 (**A**) and mouse arginase I transfected: sc-118520 (**B**) 293T whole cell lysates and mouse liver tissue extract (**C**).

SELECT PRODUCT CITATION

1. Miki, K., et al. 2009. Extracellular activation of arginase-1 decreases enterocyte inducible nitric oxide synthase activity during systemic inflammation. Am. J. Physiol. Gastrointest. Liver Physiol. 297: G840-G848.
2. Sindrilaru, A., et al. 2011. An unrestrained proinflammatory M1 macrophage population induced by iron impairs wound healing in humans and mice. J. Clin. Invest. 121: 985-997.
4. Ye, S., et al. 2012. The E3 ubiquitin ligase neuregulin receptor degradation protein 1 (Nrdp1) promotes M2 macrophage polarization by ubiquitinating and activating transcription factor CCAAT/enhancer-binding protein β (C/EBPβ). J. Biol. Chem. 287: 26740-26748.
5. Saclier, M., et al. 2013. Differentially activated macrophages orchestrate myogenic precursor cell fate during human skeletal muscle regeneration. Stem Cells 31: 384-396.
6. Mounier, R., et al. 2013. AMPKα1 regulates macrophage skewing at the time of resolution of inflammation during skeletal muscle regeneration. Cell Metab. 18: 251-264.