

# arginase I (V-20): sc-18354

## 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 6q23.2, 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: Arg1 (mouse) mapping to 10 A4.

## SOURCE

arginase I (V-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of arginase I of mouse 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-18354 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

arginase I (V-20) is recommended for detection of arginase I of mouse and rat 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).

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

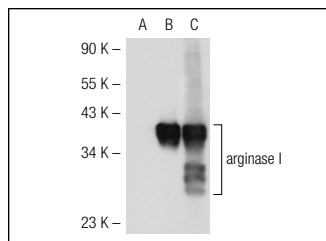
Molecular Weight of arginase I isoforms: 35/38 kDa.

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

## RESEARCH USE

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

## DATA



arginase I (V-20): sc-18354. 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 CITATIONS

1. Yang, M., et al. 2006. Inhibition of arginase I activity by RNA interference attenuates IL-13-induced airways hyperresponsiveness. *J. Immunol.* 177: 5595-5603.
2. Tan, E.H., et al. 2007. C/EBP  $\alpha$  knock-in hepatocytes exhibit increased albumin secretion and urea production. *Cell Tissue Res.* 330: 427-435.
3. Thompson, R.W., et al. 2008. Cationic amino acid transporter-2 regulates immunity by modulating arginase activity. *PLoS Pathog.* 4: e1000023.
4. Cuervo, H., et al. 2008. Inducible nitric oxide synthase and arginase expression in heart tissue during acute *Trypanosoma cruzi* infection in mice: arginase I is expressed in infiltrating CD68<sup>+</sup> macrophages. *J. Infect. Dis.* 197: 1772-1782.
5. Kigerl, K.A., et al. 2009. Identification of two distinct macrophage subsets with divergent effects causing either neurotoxicity or regeneration in the injured mouse spinal cord. *J. Neurosci.* 29: 13435-13444.
6. Guenther, J.F., et al. 2010. Modulation of lung inflammation by the Epstein-Barr virus protein Zta. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 299: L771-L784.
7. De Vocht, N., et al. 2013. Quantitative and phenotypic analysis of mesenchymal stromal cell graft survival and recognition by microglia and astrocytes in mouse brain. *Immunobiology* 218: 696-705.

## PROTOCOLS

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Try **arginase I (E-2): sc-271430** or **arginase I (8C9): sc-47715**, our highly recommended monoclonal alternatives to arginase I (V-20). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **arginase I (E-2): sc-271430**.