

# Arginase 1 (A-2): sc-365547

## BACKGROUND

Arginase 1 (also designated liver-type arginase), which is expressed almost exclusively in the liver, catalyzes the conversion of arginine to ornithine and urea. Arginase 1 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.

## SOURCE

Arginase 1 (A-2) is a mouse monoclonal antibody raised against amino acids 271-322 of Arginase 1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Arginase 1 (A-2) is available conjugated to agarose (sc-365547 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365547 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365547 PE), fluorescein (sc-365547 FITC), Alexa Fluor® 488 (sc-365547 AF488), Alexa Fluor® 546 (sc-365547 AF546), Alexa Fluor® 594 (sc-365547 AF594) or Alexa Fluor® 647 (sc-365547 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365547 AF680) or Alexa Fluor® 790 (sc-365547 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

Arginase 1 (A-2) is recommended for detection of Arginase 1 of human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for Arginase 1 siRNA (h): sc-29728, Arginase 1 shRNA Plasmid (h): sc-29728-SH and Arginase 1 shRNA (h) Lentiviral Particles: sc-29728-V.

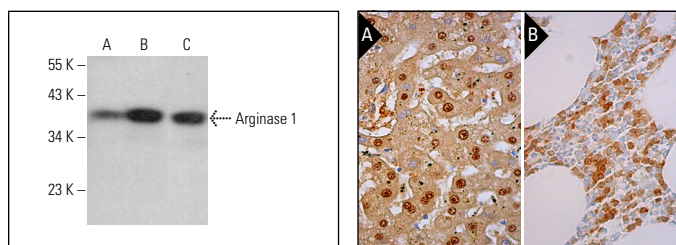
Molecular Weight of Arginase 1 isoforms: 35/38 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HL-60 whole cell lysate: sc-2209 or U-698-M whole cell lysate: sc-364799.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Arginase 1 (A-2): sc-365547. Western blot analysis of Arginase 1 expression in Hep G2 (A), HL-60 (B) and U-698-M (C) whole cell lysates.

Arginase 1 (A-2): sc-365547. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic and nuclear staining of hepatocytes (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing cytoplasmic staining of subset of hematopoietic cells (B).

## SELECT PRODUCT CITATIONS

- Huang, Y., et al. 2012. Phospho-ΔNp63α/SREBF1 protein interactions: bridging cell metabolism and cisplatin chemoresistance. *Cell Cycle* 11: 3810-3827.
- Younis, R.H., et al. 2016. Human head and neck squamous cell carcinoma-associated semaphorin 4D induces expansion of myeloid-derived suppressor cells. *J. Immunol.* 196: 1419-1429.
- Alibardi, L. 2020. Autoradiography and immunolabeling suggests that lizard blastema contains arginase-positive M2-like macrophages that may support tail regeneration. *Ann. Anat.* 231: 151549.
- Pokřývková, B., et al. 2021. ARG1 mRNA level is a promising prognostic marker in head and neck squamous cell carcinomas. *Diagnostics* 11: 628.
- D'Agata, R., et al. 2021. A new ultralow fouling surface for the analysis of human plasma samples with surface plasmon resonance. *Talanta* 221: 121483.
- Bonometti, A., et al. 2022. Arginase-1+ bone marrow myeloid cells are reduced in myeloproliferative neoplasms and correlate with clinical phenotype, fibrosis, and molecular driver. *Cancer Med.* E-published.

## RESEARCH USE

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