SANTA CRUZ BIOTECHNOLOGY, INC.

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 $\mu g~lgG_1$ 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 μ g/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365547 HRP), 200 μ g/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 μ g/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 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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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.

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 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

- 1. Huang, Y., et al. 2012. Phospho- $\Delta Np63\alpha/SREBF1$ 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 carcinomaassociated 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.
- Pokrývková, B., et al. 2021. ARG1 mRNA level is a promising prognostic marker in head and neck squamous cell carcinomas. Diagnostics 11: 628.
- 5. 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. 2023. Arginase-1+ bone marrow myeloid cells are reduced in myeloproliferative neoplasms and correlate with clinical phenotype, fibrosis, and molecular driver. Cancer Med. 12: 7815-7822.
- 7. Nakagawa, S., et al. 2024. Wnt/ β -catenin signaling regulates amino acid metabolism through the suppression of CEBPA and FOXA1 in liver cancer cells. Commun. Biol. 7: 510.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.