SANTA CRUZ BIOTECHNOLOGY, INC.

Arg2 (C-8): sc-271443

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. The human arginase I gene, which maps to chromosome 6q23, 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: ARG2 (human) mapping to 14q24.1.

SOURCE

Arg2 (C-8) is a mouse monoclonal antibody raised against amino acids 291-354 of Arg2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Arg2 (C-8) is available conjugated to agarose (sc-271443 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271443 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271443 PE), fluorescein (sc-271443 FITC), Alexa Fluor® 488 (sc-271443 AF488), Alexa Fluor® 546 (sc-271443 AF546), Alexa Fluor® 594 (sc-271443 AF594) or Alexa Fluor® 647 (sc-271443 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271443 AF680) or Alexa Fluor® 790 (sc-271443 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

Arg2 (C-8) is recommended for detection of Arg2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Arg2 siRNA (h): sc-29729, Arg2 shRNA Plasmid (h): sc-29729-SH and Arg2 shRNA (h) Lentiviral Particles: sc-29729-V.

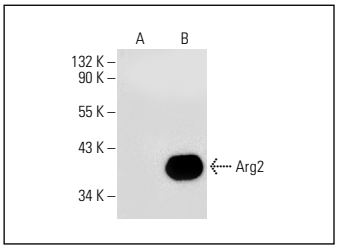
Molecular Weight of Arg2: 40 kDa.

Positive Controls: Arg2 (h): 293T Lysate: sc-114274, human kidney extract: sc-363764 or T84 whole cell lysate: sc-364797.

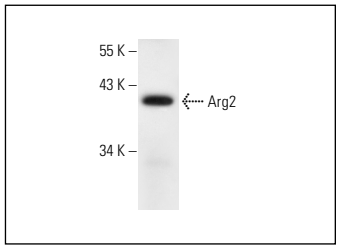
RECOMMENDED SUPPORT REAGENTS

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.

DATA



Arg2 (C-8): sc-271443. Western blot analysis of Arg2 expression in non-transfected: sc-117752 (**A**) and human Arg2 transfected: sc-114274 (**B**) 293T whole cell lysates.



Arg2 (C-8): sc-271443. Western blot analysis of Arg2 expression in human kidney tissue extract.

SELECT PRODUCT CITATIONS

1. Setty, B.A., et al. 2017. Hypoxia-induced proliferation of HeLa cells depends on epidermal growth factor receptor-mediated arginase II induction. Physiol. Rep. 5: e13175.
2. Choi, K., et al. 2020. Overexpressed p32 localized in the endoplasmic reticulum and mitochondria negatively regulates calcium-dependent endothelial nitric oxide synthase activit. Mol. Med. Rep. 22: 2395-2403.
3. da Silva, T.P., et al. 2020. Macrophage polarization in leprosy-HIV co-infected patients. Front. Immunol. 11: 1493.
4. Koo, B.H., et al. 2022. Arginase II protein regulates Parkin-dependent p32 degradation that contributes to Ca^{2+}-dependent eNOS activation in endothelial cells. Cardiovasc. Res. 118: 1344-1358.
5. Mein, H., et al. 2022. Altered brain arginine metabolism and polyamine system in a P301S tauopathy mouse model: a time-course study. Int. J. Mol. Sci. 23: 6039.

RESEARCH USE

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

PROTOCOLS

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