SANTA CRUZ BIOTECHNOLOGY, INC.

arginase I (C-2): sc-166920

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.

SOURCE

arginase I (C-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 40-75 near the N-terminus of arginase I of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

arginase I (C-2) is available conjugated to agarose (sc-166920 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-166920 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166920 PE), fluorescein (sc-166920 FITC), Alexa Fluor® 488 (sc-166920 AF488), Alexa Fluor® 546 (sc-166920 AF546), Alexa Fluor® 594 (sc-166920 AF594) or Alexa Fluor® 647 (sc-166920 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166920 AF680) or Alexa Fluor® 790 (sc-166920 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166920 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

arginase I (C-2) is recommended for detection of arginase I 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 I siRNA (h): sc-29728, arginase I shRNA Plasmid (h): sc-29728-SH and arginase I shRNA (h) Lentiviral Particles: sc-29728-V.

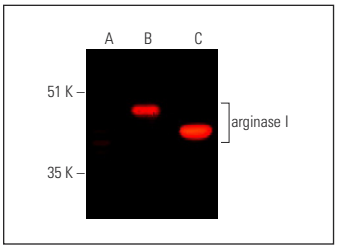
Molecular Weight of arginase I isoforms: 35/38 kDa.

Positive Controls: arginase I (h): 293T Lysate: sc-159833 or human liver extract: sc-363766.

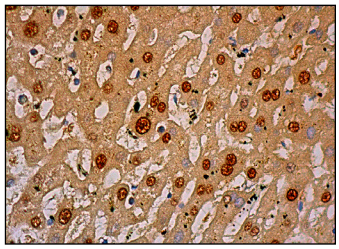
STORAGE

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

DATA



arginase I (C-2): sc-166920. Near-infrared 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 human liver tissue extract (**C**). Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.



arginase I (C-2): sc-166920. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic and nuclear staining of hepatocytes.

SELECT PRODUCT CITATIONS

1. Knox, L.T., et al. 2011. Scopolamine impairs behavioural function and arginine metabolism in the rat dentate gyrus. Neuropharmacology 61: 1452-1462.
2. Jing, Y., et al. 2013. Regional variations and age-related changes in arginine metabolism in the rat brain stem and spinal cord. Neuroscience 252: 98-108.
3. Liu, P., et al. 2014. Altered arginine metabolism in Alzheimer's disease brains. Neurobiol. Aging 35: 1992-2003.
4. Kral, J.B., et al. 2016. Sustained PI3K activation exacerbates BLM-induced lung fibrosis via activation of pro-inflammatory and pro-fibrotic pathways. Sci. Rep. 6: 23034.
5. Yanguas-Casás, N., et al. 2017. TUDCA: an agonist of the bile acid receptor GPBAR1/TGR5 with anti-inflammatory effects in microglial cells. J. Cell. Physiol. 232: 2231-2245.
6. Fini, M.A., et al. 2017. Alcohol abuse is associated with enhanced pulmonary and systemic xanthine oxidoreductase activity. Am. J. Physiol. Lung Cell. Mol. Physiol. 313: L1047-L1057.
7. Bergin, D.H., et al. 2018. Altered plasma arginine metabolome precedes behavioural and brain arginine metabolomic profile changes in the APPswe/PS1ΔE9 mouse model of Alzheimer's disease. Transl. Psychiatry 8: 108.
8. Torika, N., et al. 2018. Candesartan ameliorates brain inflammation associated with Alzheimer's disease. CNS Neurosci. Ther. 24: 231-242.
9. Yun, J.A., et al. 2019. N-terminal modification of Arg-Leu-Tyr-Glu, a VEGFR-2 antagonist, improves anti-tumor activity by increasing its stability against serum peptidases. Mol. Pharmacol. pii: mol.119.117234.

RESEARCH USE

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