SANTA CRUZ BIOTECHNOLOGY, INC.

arginase I (E-2): sc-271430

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 (mouse) mapping to 10 A4.

SOURCE

arginase I (E-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 43-81 near the N-terminus of arginase I of mouse 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.

arginase I (E-2) is available conjugated to agarose (sc-271430 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271430 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271430 PE), fluorescein (sc-271430 FITC), Alexa Fluor® 488 (sc-271430 AF488), Alexa Fluor® 546 (sc-271430 AF546), Alexa Fluor® 594 (sc-271430 AF594) or Alexa Fluor® 647 (sc-271430 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271430 AF680) or Alexa Fluor® 790 (sc-271430 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271430 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

arginase I (E-2) is recommended for detection of arginase I of mouse and rat 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 (m): sc-29727, arginase I shRNA Plasmid (m): sc-29727-SH and arginase I shRNA (m) Lentiviral Particles: sc-29727-V.

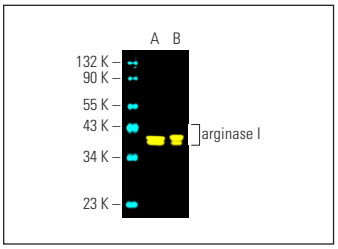
Molecular Weight of arginase I isoforms: 35/38 kDa.

Positive Controls: mouse liver extract: sc-2256 or rat liver extract: sc-2395.

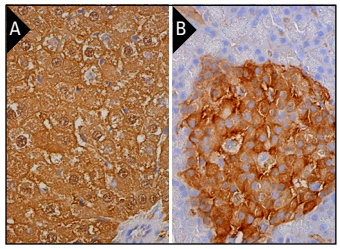
STORAGE

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

DATA



arginase I (E-2) Alexa Fluor® 488: sc-271430 AF488. Direct fluorescent western blot analysis of arginase I expression in mouse liver (**A**) and rat liver (**B**) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker™ MW Tag-Alexa Fluor® 647: sc-516791.



arginase I (E-2): sc-271430. Immunoperoxidase staining of formalin fixed, paraffin-embedded rat liver tissue showing cytoplasmic and nuclear staining of hepatocytes (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat pancreas tissue showing cytoplasmic staining of Islets of Langerhans (**B**).

SELECT PRODUCT CITATIONS

1. Rhee, I., et al. 2013. Macrophage fusion is controlled by the cytoplasmic protein tyrosine phosphatase PTP-PEST/PTPN12. Mol. Cell. Biol. 33: 2458-2469.
2. Neal, M.L., et al. 2018. The glycoprotein GPNMB attenuates astrocyte inflammatory responses through the CD44 receptor. J. Neuroinflammation 15: 73.
3. Chen, L., et al. 2018. IL-6 influences the polarization of macrophages and the formation and growth of colorectal tumor. Oncotarget 9: 17443-17454.
4. Moroncini, G., et al. 2018. Mesenchymal stromal cells from human umbilical cord prevent the development of lung fibrosis in immunocompetent mice. PLoS ONE 13: e0196048.
5. Cabrera, S., et al. 2019. Delayed resolution of bleomycin-induced pulmonary fibrosis in absence of MMP13 (collagenase 3). Am. J. Physiol. Lung Cell. Mol. Physiol. 316: L961-L976.
6. Qin, S., et al. 2019. CTHRC1 promotes wound repair by increasing M2 macrophages via regulating the TGF-β and notch pathways. Biomed. Pharmacother. 113: 108594.
7. Sommer, D., et al. 2019. ADAM17-deficiency on microglia but not on macrophages promotes phagocytosis and functional recovery after spinal cord injury. Brain Behav. Immun. 80: 129-145.
8. Liu, M., et al. 2019. C1q/TNF-related protein-9 promotes macrophage polarization and improves cardiac dysfunction after myocardial infarction. J. Cell. Physiol. 234: 18731-18747.
9. Kang, H., et al. 2019. Immunoregulation of macrophages by dynamic ligand presentation via ligand-cation coordination. Nat. Commun. 10: 1696.

RESEARCH USE

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