SANTA CRUZ BIOTECHNOLOGY, INC.

Arg2 (h): 293T Lysate: sc-114274

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 maps to chromosome 6q23.2 and 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 localizing 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 maps to chromosome 14q24.1 and encodes a 354 amino acid protein. Additionally, arginase II contains a putative amino-terminal mitochondrial localization sequence.

REFERENCES

1. Diez, A., et al. 1994. Immuno-logical identity of the two different molecular mass constitutive subunits of liver arginase. Biol. Chem. Hoppe-Seyler 375: 537-541.
2. Gotoh, T., et al. 1996. Molecular cloning of cDNA for nonhepatic mitochondrial arginase (arginase II) and comparison of its induction with nitric oxide synthase in a murine macrophage-like cell line. FEBS Lett. 395: 119-122.
3. Gotoh, T., et al. 1997. Chromosomal localization of the human arginase II gene and tissue distribution of its mRNA. Biochem. Biophys. Res. Commun. 233: 487-491.
4. Carraway, M.S., et al. 1998. Differential expression of arginase and iNOS in the lung in sepsis. Exp. Lung Res. 24: 253-268.
5. Mora, A., et al. 2000. Implications of the S-shaped domain in the quaternary structure of human arginase. Biochim. Biophys. Acta 1476: 181-190.
6. Ash, D.E. 2004. Structure and function of arginases. J. Nutr. 134: 2760S-2767S.
7. Crombez, E.A., et al. 2004. Hyperargininemia due to liver arginase deficiency. Mol. Genet. Metab. 84: 243-251.
8. Ensunsa, J.L., et al. 2004. Reducing arginase activity via dietary manganese deficiency enhances endothelium-dependent vasorelaxation of rat aorta. Exp. Biol. Med. 229: 1143-1153.
9. Grodzicki, M., et al. 2004. Arginase activity concentration marking in monitoring of hepatocytes function after orthotopic liver transplantation—preliminary report. Ann. Transplant. 9: 54-57.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: ARG2 (human) mapping to 14q24.1.

PRODUCT

Arg2 (h): 293T Lysate represents a lysate of human Arg2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Arg2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Arg2 antibodies .Recommended use: 10-20 µl per lane.

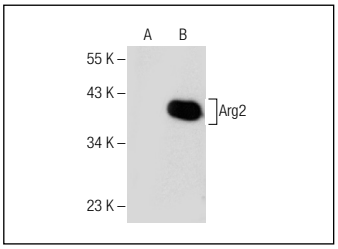
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Arg2 (C-3): sc-374420 is recommended as a positive control antibody for Western Blot analysis of enhanced human Arg2 expression in Arg2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

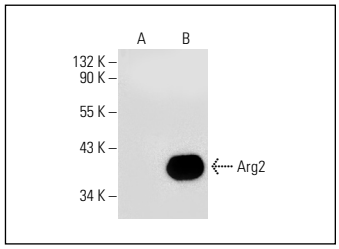
RECOMMENDED SUPPORT REAGENTS

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.

DATA



Arg2 (C-3): sc-374420. 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 non-transfected: sc-117752 (**A**) and human Arg2 transfected: sc-114274 (**B**) 293T whole cell lysates.

RESEARCH USE

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