SANTA CRUZ BIOTECHNOLOGY, INC.

Agmatinase (K-14): sc-46713

BACKGROUND

Agmatinase (also known as agmatine ureohydrolase) results from the decarboxylation of L-arginine by arginine decarboxylase to form a metabolic intermediate in the biosynthesis of putresine and higher polyamines (spermidine and spermine). Agmatinase has been shown to play a role in several important biochemical processes in humans, ranging from effects on the central nervous system to cell proliferation in cancer and viral replication. Agmatinase catalyzes the hydrolysis of agmatine to putresine and urea and is a major target for drug therapy. Human Agmatinase retains about 30% identity to bacterial agmatinases and less than 20% identity to mammalian arginases. Residues required for binding of Mn^{2+} at the active site in bacterial Agmatinase and other members of the arginase superfamily are fully conserved in human Agmatinase. Agmatinase mRNA is most abundant in human liver and kidney, but is also expressed in several other tissues, including skeletal muscle and brain. Expression of Agmatinase mRNA in human liver is induced during hepatitis B virus infection, suggesting that Agmatinase may contribute to the pathophysiology of this disease.

REFERENCES

1. Iyer, R.K., et al. 2002. Cloning and characterization of human agmatinase. Mol. Genet. Metab. 75: 209-218.
2. Mistry, S.K., et al. 2002. Cloning of human agmatinase. An alternate path for polyamine synthesis induced in liver by hepatitis B virus. Am. J. Physiol. Gastrointest. Liver Physiol. 282: G375-G381.
3. Wang, J.F., et al. 2005. Inhibitory effect of agmatine on proliferation of tumor cells by modulation of polyamine metabolism. Acta Pharmacol. Sin. 26: 616-622.

CHROMOSOMAL LOCATION

Genetic locus: AGMAT (human) mapping to 1p36.21; Agmat (mouse) mapping to 4 E1.

SOURCE

Agmatinase (K-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Agmatinase of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-46713 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Agmatinase (K-14) is recommended for detection of precursor and mature Agmatinase of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

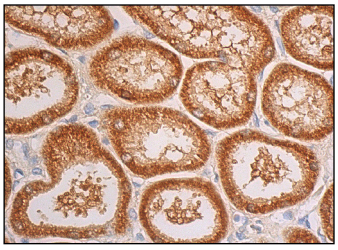
Agmatinase (K-14) is also recommended for detection of precursor and mature Agmatinase in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Agmatinase siRNA (h): sc-60060, Agmatinase siRNA (m): sc-60061, Agmatinase shRNA Plasmid (h): sc-60060-SH, Agmatinase shRNA Plasmid (m): sc-60061-SH, Agmatinase shRNA (h) Lentiviral Particles: sc-60060-V and Agmatinase shRNA (m) Lentiviral Particles: sc-60061-V.

Molecular Weight of Agmatinase: 38 kDa.

Positive Controls: rat liver extract: sc-2395, mouse liver extract: sc-2256 or Hep G2 cell lysate: sc-2227.

DATA



Agmatinase (K-14): sc-46713. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. North, M.L., et al. 2009. Functionally important role for arginase 1 in the airways hyperresponsiveness of asthma. Am. J. Physiol. Lung Cell. Mol. Physiol. 296: L911-L920.

PROTOCOLS

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