SANTA CRUZ BIOTECHNOLOGY, INC.

Agmatinase (N-14): sc-46715

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.
4. Santos, A.R., et al. 2005. Mechanisms involved in the antinociception caused by agmatine in mice. Neuropharmacology 48: 1021-1034.
5. Moinard, C., et al. 2005. Polyamines: metabolism and implications in human diseases. Clin. Nutr. 24: 184-197.

CHROMOSOMAL LOCATION

Genetic locus: AGMAT (human) mapping to 1p36.21.

SOURCE

Agmatinase (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus 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-46715 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.

APPLICATIONS

Agmatinase (N-14) is recommended for detection of precursor and mature Agmatinase of 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 (N-14) is also recommended for detection of precursor and mature Agmatinase in additional species, including bovine.

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

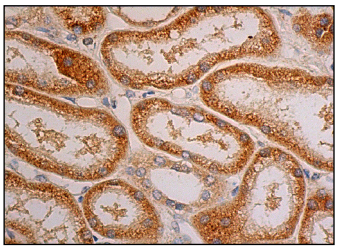
Molecular Weight of Agmatinase: 38 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



Agmatinase (N-14): sc-46715. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

RESEARCH USE

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