SANTA CRUZ BIOTECHNOLOGY, INC.

AGXT (M-20): sc-167061

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

AGXT (alanine-glyoxylate aminotransferase), also known as AGT, AGT1, AGXT1, PH1, SPAT (serine—pyruvate aminotransferase) or TLH6, is a 392 amino acid protein belonging to the class-V pyridoxal-phosphate-dependent aminotransferase family. Encoded by a gene that maps to human chromosome 2q37.3, AGXT consists of a homodimer subunit structure and uses pyridoxal phosphate as a cofactor. Localized mainly in peroxisome, AGXT is expressed in liver. AGXT participates in alanine-glyoxylate transaminase activity, amino acid and protein binding, protein homodimerization, pyridoxal phosphate binding, serine-pyruvate transaminase activity and transferase roles. AGXT is linked to hyperoxaluria primary type 1 (HP1), a rare autosomal recessive disease characterized by heightened excretion of oxalate and glycolate, and build up of insoluble calcium oxalate in urinary tract and kidney.

REFERENCES

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2. Danpure, C.J., et al. 1986. Peroxisomal alanine:glyoxylate aminotransferase deficiency in primary hyperoxaluria type I. FEBS Lett. 201: 20-24.
3. Cooper, P.J., et al. 1988. Immunocytochemical localization of human hepatic alanine: glyoxylate aminotransferase in control subjects and patients with primary hyperoxaluria type 1. J. Histochem. Cytochem. 36: 1285-1294.
4. Purdue, P.E., et al. 1991. Characterization and chromosomal mapping of a genomic clone encoding human alanine:glyoxylate aminotransferase. Genomics 10: 34-42.
5. Danpure, C.J., et al. 1993. Enzymological and mutational analysis of a complex primary hyperoxaluria type 1 phenotype involving alanine:glyoxylate aminotransferase peroxisome-to-mitochondrion mistargeting and intraperoxisomal aggregation. Am. J. Hum. Genet. 53: 417-432.
6. Danpure, C.J. 1993. Primary hyperoxaluria type 1 and peroxisome-to-mitochondrion mistargeting of alanine:glyoxylate aminotransferase. Biochimie 75: 309-315.
7. Danpure, C.J. 1997. Variable peroxisomal and mitochondrial targeting of alanine: glyoxylate aminotransferase in mammalian evolution and disease. Bioessays 19: 317-326.
8. Pirulli, D., et al. 1999. Molecular analysis of hyperoxaluria type 1 in Italian patients reveals eight new mutations in the alanine: glyoxylate aminotransferase gene. Hum. Genet. 104: 523-525.
9. Caldwell, E.F., et al. 2004. Diet and the frequency of the alanine:glyoxylate aminotransferase Pro11Leu polymorphism in different human populations. Hum. Genet. 115: 504-509.

CHROMOSOMAL LOCATION

Genetic locus: Agxt (mouse) mapping to 1 D.

SOURCE

AGXT (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of AGXT of mouse 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-167061 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AGXT (M-20) is recommended for detection of AGXT of mouse and rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with AGXT2, AGXT2L1 or AGXT2L2.

AGXT (M-20) is also recommended for detection of AGXT in additional species, including equine and porcine.

Suitable for use as control antibody for AGXT siRNA (m): sc-140910, AGXT shRNA Plasmid (m): sc-140910-SH and AGXT shRNA (m) Lentiviral Particles: sc-140910-V.

Molecular Weight of AGXT: 40 kDa.

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.

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.

PROTOCOLS

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