SANTA CRUZ BIOTECHNOLOGY, INC.

AGXT (AT2T4): sc-517388

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

1. Noguchi, T., et al. 1978. Characteristics of hepatic alanine-glyoxylate aminotransferase in different mammalian species. Biochem. J. 169: 113-122.
2. Danpure, C.J. and Jennings, P.R. 1986. Peroxisomal alanine-glyoxylate aminotransferase deficiency in primary hyperoxaluria type I. FEBS Lett. 201: 20-24.
3. Cooper, P.J., et al. 1988. Immuno-cytochemical 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.

CHROMOSOMAL LOCATION

Genetic locus: AGXT (human) mapping to 2q37.3; Agxt (mouse) mapping to 1 D.

SOURCE

AGXT (AT2T4) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 330-392 of AGXT of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 50 µg IgG_{2b} kappa light chain in 0.5 ml of PBS with 0.02% sodium azide and 10% glycerol.

APPLICATIONS

AGXT (AT2T4) is recommended for detection of AGXT of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for AGXT siRNA (h): sc-94932, AGXT siRNA (m): sc-140910, AGXT shRNA Plasmid (h): sc-94932-SH, AGXT shRNA Plasmid (m): sc-140910-SH, AGXT shRNA (h) Lentiviral Particles: sc-94932-V and AGXT shRNA (m) Lentiviral Particles: sc-140910-V.

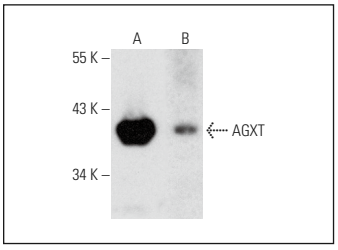
Molecular Weight of AGXT: 40 kDa.

Positive Controls: human liver extract: sc-363766 or mouse liver extract: sc-2256.

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



AGXT (AT2T4): sc-517388. Western blot analysis of AGXT expression in human liver (**A**) and mouse liver (**B**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Liu, Y., et al. 2021. Dysregulated oxalate metabolism is a driver and therapeutic target in atherosclerosis. Cell Rep. 36: 109420.

STORAGE

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