

AGXT (C-14): sc-167057



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., 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.

CHROMOSOMAL LOCATION

Genetic locus: AGXT (human) mapping to 2q37.3.

SOURCE

AGXT (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of AGXT of human origin.

STORAGE

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

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-167057 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AGXT (C-14) is recommended for detection of AGXT of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with AGXT2, AGXT2L1 or AGXT2L2.

AGXT (C-14) is also recommended for detection of AGXT in additional species, including equine, canine and porcine.

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

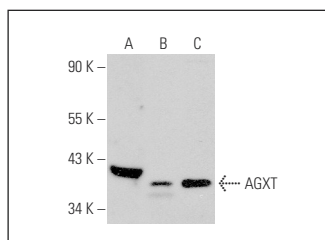
Molecular Weight of AGXT: 40 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or human liver extract: sc-363766.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



AGXT (C-14): sc-167057. Western blot analysis of AGXT expression in human liver tissue extract (A) and HeLa (B) and K-562 (C) whole cell lysates.

RESEARCH USE

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