SANTA CRUZ BIOTECHNOLOGY, INC.

AGPS (B-9): sc-515671

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

AGPS (alkyldihydroxyacetonephosphate synthase), also known as Alkyl-glycerone-phosphate synthase and AAG5 (aging-associated gene 5 protein), is a 658 amino acid enzyme that is required for glycerolipid metabolism and ether lipid biosynthesis. Localized to the inner aspect of the peroxisomal membrane, AGPS is likely part of a heterotrimeric complex that is also composed of GNPAT and a modified form of GNPAT. Containing one FAD-binding PCMH-type domain, AGPS utilizes FAD as a cofactor in the synthesis of alkyl-glycerone 3-phophate and a long-chain acid anion from 1-acteyl-glyerone 3-phosphate and a long-chain alcohol. Defects in the gene encoding AGPS result in rhizomelic chondrodysplasia punctata type 3, a disease characterized by vertebral disorders, severe mental retardation, cutaneous lesions, cataracts and rhizomelic shortening of the humerus and femur.

REFERENCES

1. de Vet, E.C., et al. 1997. Nucleotide sequence of human alkyl-dihydroxy-acetonephosphate synthase cDNA reveals the presence of a peroxisomal targeting signal 2. Biochim. Biophys. Acta 1346: 25-29.
2. de Vet, E.C., et al. 1998. Alkyl-dihydroxyacetonephosphate synthase. Fate in peroxisome biogenesis disorders and identification of the point mutation underlying a single enzyme deficiency. J. Biol. Chem. 273: 10296-10301.
3. Biermann, J., et al. 1999. Alkyl-dihydroxyacetone phosphate synthase and dihydroxyacetone phosphate acyltransferase form a protein complex in peroxisomes. Eur. J. Biochem. 261: 492-499.
4. de Vet, E.C. and van den Bosch, H. 2000. Alkyl-dihydroxyacetonephosphate synthase. Cell Biochem. Biophys. 32: 117-121.
5. Thai, T.P., et al. 2001. Impaired membrane traffic in defective ether lipid biosynthesis. Hum. Mol. Genet. 10: 127-136.
6. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 603051. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Honsho, M., et al. 2008. Isolation and characterization of mutant animal cell line defective in alkyl-dihydroxyacetonephosphate synthase: localization and transport of plasmalogens to post-Golgi compartments. Biochim. Biophys. Acta 1783: 1857-1865.
8. Choudhary, C., et al. 2009. Lysine acetylation targets protein complexes and co-regulates major cellular functions. Science 325: 834-840.

CHROMOSOMAL LOCATION

Genetic locus: AGPS (human) mapping to 2q31.2; Agps (mouse) mapping to 2 C3.

SOURCE

AGPS (B-9) is a mouse monoclonal antibody raised against amino acids 31-330 mapping near the N-terminus of AGPS of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

AGPS (B-9) is recommended for detection of AGPS of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for AGPS siRNA (h): sc-94310, AGPS siRNA (m): sc-140906, AGPS shRNA Plasmid (h): sc-94310-SH, AGPS shRNA Plasmid (m): sc-140906-SH, AGPS shRNA (h) Lentiviral Particles: sc-94310-V and AGPS shRNA (m) Lentiviral Particles: sc-140906-V.

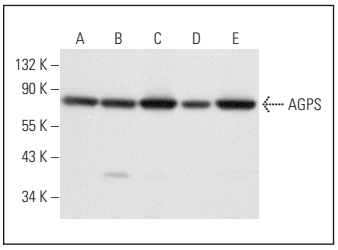
Molecular Weight of AGPS: 78-79 kDa.

Positive Controls: MDA-MB-231 cell lysate: sc-2232, K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

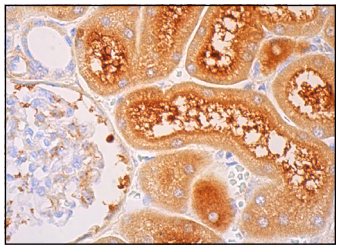
RECOMMENDED SUPPORT REAGENTS

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



AGPS (B-9): sc-515671. Western blot analysis of AGPS expression in K-562 (**A**), MDA-MB-231 (**B**), SW480 (**C**), Jurkat (**D**) and THP-1 (**E**) whole cell lysates.



AGPS (B-9): sc-515671. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detection reagents used: m-IgGκ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216.

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.