SANTA CRUZ BIOTECHNOLOGY, INC.

AGPS (A-2): sc-374201

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

AGPS (alkyldihydroxyacetonephosphate synthase), also known as alkylglycerone-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 alkylglycerone 3-phophate and a long-chain acid anion from 1-acteyl-glycerone 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.

REFERENCE

1. de Vet, E.C., et al. 1997. Nucleotide sequence of human alkyl-dihydroxyacetonephosphate 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.

CHROMOSOMAL LOCATION

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

SOURCE

AGPS (A-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 577-609 near the C-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.

AGPS (A-2) is available conjugated to agarose (sc-374201 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374201 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374201 PE), fluorescein (sc-374201 FITC), Alexa Fluor® 488 (sc-374201 AF488), Alexa Fluor® 546 (sc-374201 AF546), Alexa Fluor® 594 (sc-374201 AF594) or Alexa Fluor® 647 (sc-374201 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374201 AF680) or Alexa Fluor® 790 (sc-374201 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374201 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

AGPS (A-2) 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), 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).

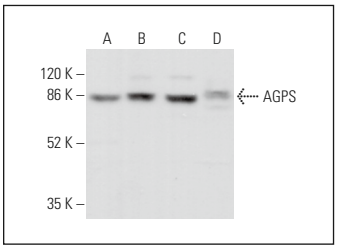
AGPS (A-2) is also recommended for detection of AGPS in additional species, including equine, canine, bovine and porcine.

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.

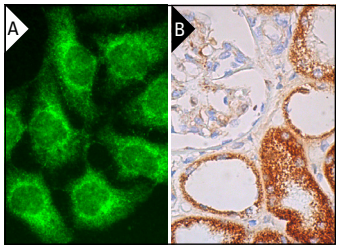
Molecular Weight of AGPS: 78-79 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, RT-4 whole cell lysate: sc-364257 or SW480 cell lysate: sc-2219.

DATA



AGPS (A-2): sc-374201. Western blot analysis of AGPS expression in K-562 (**A**), RT-4 (**B**), SW480 (**C**) and c4 (**D**) whole cell lysates.



AGPS (A-2): sc-374201. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). 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 (**B**).

SELECT PRODUCT CITATIONS

1. Karnati, S., et al. 2016. C22-bronchial and T7-alveolar epithelial cell lines of the immortomouse are excellent murine cell culture model systems to study pulmonary peroxisome biology and metabolism. Histochem. Cell Biol. 145: 287-304.
2. Chen, L., et al. 2020. Effect of alkylglycerone phosphate synthase on the expression levels of lncRNAs in glioma cells and its functional prediction. Oncol. Lett. 20: 66.
3. Watermann, C., et al. 2021. Peroxisomes in the mouse parotid glands: an in-depth morphological and molecular analysis. Ann. Anat. 238: 151778.
4. Watermann, C., et al. 2023. Peroxisomes are highly abundant and heterogeneous in human parotid glands. Int. J. Mol. Sci. 24: 4783.

RESEARCH USE

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