For Research Use Only

ACSS1 Polyclonal antibody

Catalog Number:17138-1-AP Featured Product 21 Publications

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Basic Information

Catalog Number:
17138-1-AP

Size:
150ul , Concentration: 350 ug/ml by Nanodrop and 227 ug/ml by Bradford method using BSA as the standard;

Source:
Rabbit

Isotype:
IgG

Immunogen Catalog Number:
AG10896

GenBank Accession Number:
BC039261

GeneID (NCBI):
84532

UNIPROT ID:
Q9NUB1

Full Name:
acyl-CoA synthetase short-chain family member 1

Calculated MW:
689 aa, 75 kDa

Observed MW:
70-75 kDa

Purification Method:
Antigen affinity purification

Recommended Dilutions:
WB: 1:500-1:3000
IP: 0.5-4.0 ug for 1.0-3.0 mg of total protein lysate
IHC: 1:100-1:400

Applications

Tested Applications:
WB, IP, IHC, ELISA

Cited Applications:
WB, IHC, IF

Species Specificity:
human, mouse, rat

Cited Species:
human, mouse, rat, pig

Note-IHC: suggested antigen retrieval with TE buffer pH 9.0; (*) Alternatively, antigen retrieval may be performed with citrate buffer pH 6.0

Positive Controls:

WB : Caco-2 cells, Jurkat cells, mouse kidney tissue, RAW 264.7 cells

IP : mouse kidney tissue,

IHC : human liver cancer tissue,

Background Information

The ACSS (acetyl-CoA synthetase) enzyme is the sole known mammalian enzyme that can catalyze the conversion of free acetate into acetyl coenzyme A (acetyl-CoA). The three known isoforms of human ACSS are termed ACSS1, ACSS2, and ACSS3. The main substrate of ACSS1 and ACSS2 is acetate, while the preferential substrate of ACSS3 is propionate. Two acetate related enzymes, ACSS1(GeneID: 84532) and ACSS2 (GeneID:55902) difer in their tissue distribution and subcellular localization. On the one hand, as a mitochondrial matrix enzyme, ACSS1 is expressed mainly in cardiac and skeletal muscle as well as brown adipose tissue. On the other hand, as a nuclear and cytoplasmic enzyme, ACSS2 is strongly expressed in the liver, kidney and heart and moderately expressed in the brain and testis.ACSS2 participates in lipid synthesis and facilitates protein acetylation by generating acetyl-CoA, while ACSS1 is involved in acetate oxidation. The functional diferences in these enzymes involve energy production through the tricarboxylic acid (TCA) cycle. Due to its more thorough utilization of intracellular acetate, ACSS2 is expressed in almost all cell types under diferent physiological conditions.

Notable Publications

Author	Pubmed ID	Journal	Application
Judith Schweisgut	28314781	EMBO J	WB
Wenjun Zhou	33682931	J Cell Physiol	IF,WB
Sarah Calhoun	35263700	Transl Oncol	WB

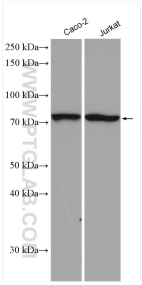
Storage

Storage:
Store at -20°C. Stable for one year after shipment.
Storage Buffer:
PBS with 0.02% sodium azide and 50% glycerol, pH7.3
Aliquoting is unnecessary for -20°C storage

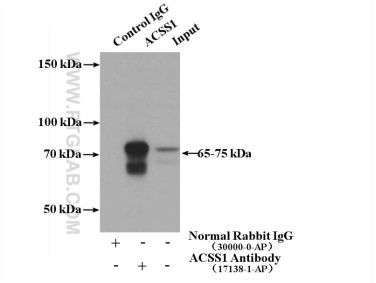
*** 20ul sizes contain 0.1% BSA

For technical support and original validation data for this product please contact:
T: 1 (888) 4PTGLAB (1-888-478-4522) (toll free in USA), or 1(312) 455-8498 (outside USA)
E: proteintech@ptglab.com
W: ptglab.com

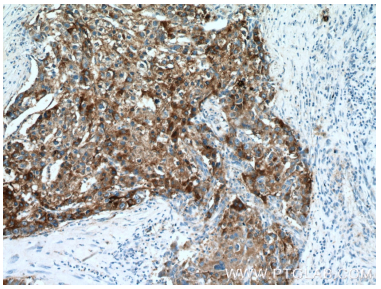
Selected Validation Data



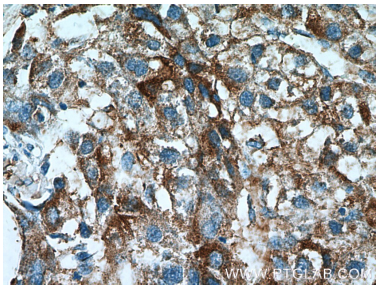
Various lysates were subjected to SDS PAGE followed by western blot with 17138-1-AP (ACSS1 antibody) at dilution of 1:1000 incubated at room temperature for 1.5 hours.



IP result of anti-ACSS1 (IP:17138-1-AP, 4ug; Detection:17138-1-AP 1:700) with mouse kidney tissue lysate 4000ug.



Immunohistochemical analysis of paraffin-embedded human liver cancer tissue slide using 17138-1-AP (ACSS1 Antibody) at dilution of 1:200 (under 10x lens).



Immunohistochemical analysis of paraffin-embedded human liver cancer tissue slide using 17138-1-AP (ACSS1 Antibody) at dilution of 1:200 (under 40x lens).