

For Research Use Only

# ACSS1 Polyclonal antibody

Catalog Number: 17138-1-AP

Featured Product

18 Publications



## 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) differ 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 differences 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 different 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 pH 7.3.

Aliquoting is unnecessary for -20°C storage

\*\*\* 20ul sizes contain 0.1% BSA

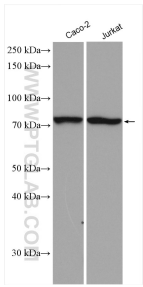
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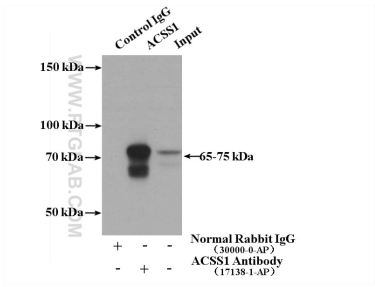
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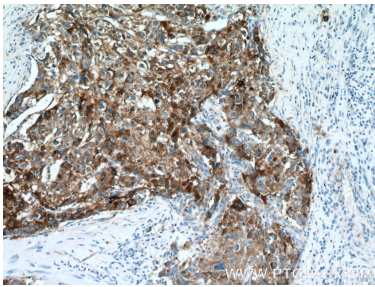
Selected Validation Data



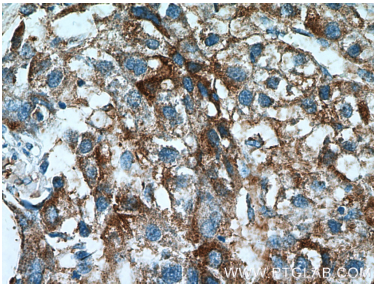
Various lysates were subjected to SDS PAGE followed by western blot with 17138-1-AP (ACSS1 antibody) at dilution of 1:1000 incubated at room temperature for 1.5 hours.



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).