

**ACSS2 Antibody (Center)**  
**Affinity Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP13231c****Specification**

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**ACSS2 Antibody (Center) - Product Information**

Application	IHC-P, WB,E
Primary Accession	<a href="#">O9NR19</a>
Other Accession	<a href="#">NP_061147.1</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	78580
Antigen Region	261-290

**ACSS2 Antibody (Center) - Additional Information****Gene ID** 55902**Other Names**

Acetyl-coenzyme A synthetase, cytoplasmic, Acetate--CoA ligase, Acetyl-CoA synthetase, ACS, AceCS, Acyl-CoA synthetase short-chain family member 2, Acyl-activating enzyme, ACSS2, ACAS2

**Target/Specificity**

This ACSS2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 261-290 amino acids from the Central region of human ACSS2.

**Dilution**

IHC-P~~1:10~50

WB~~1:1000

E~~Use at an assay dependent concentration.

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

**Storage**

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

ACSS2 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

**ACSS2 Antibody (Center) - Protein Information****Name** ACSS2

## Synonyms ACAS2

**Function** Catalyzes the synthesis of acetyl-CoA from short-chain fatty acids (PubMed:[10843999](#), PubMed:[28003429](#), PubMed:[28552616](#)). Acetate is the preferred substrate (PubMed:[10843999](#), PubMed:[28003429](#)). Can also utilize propionate with a much lower affinity (By similarity). Nuclear ACSS2 promotes glucose deprivation-induced lysosomal biogenesis and autophagy, tumor cell survival and brain tumorigenesis (PubMed:[28552616](#)). Glucose deprivation results in AMPK-mediated phosphorylation of ACSS2 leading to its translocation to the nucleus where it binds to TFEB and locally produces acetyl-CoA for histone acetylation in the promoter regions of TFEB target genes thereby activating their transcription (PubMed:[28552616](#)). The regulation of genes associated with autophagy and lysosomal activity through ACSS2 is important for brain tumorigenesis and tumor survival (PubMed:[28552616](#)). Acts as a chromatin-bound transcriptional coactivator that up-regulates histone acetylation and expression of neuronal genes (By similarity). Can be recruited to the loci of memory-related neuronal genes to maintain a local acetyl-CoA pool, providing the substrate for histone acetylation and promoting the expression of specific genes, which is essential for maintaining long-term spatial memory (By similarity).

## Cellular Location

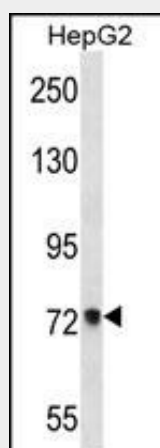
Cytoplasm, cytosol. Cytoplasm {ECO:0000250|UniProtKB:Q9QXG4}. Nucleus Note=Glucose deprivation results in its AMPK-dependent phosphorylation and subsequent nuclear translocation (PubMed:[28552616](#)). Phosphorylation at Ser-659, leads to exposure of its nuclear localization signal which is required for its interaction with KPNA1 and subsequent translocation to the nucleus (PubMed:[28552616](#)). Found in the cytoplasm in undifferentiated neurons and upon differentiation, translocates to nucleus (By similarity). {ECO:0000250|UniProtKB:Q9QXG4, ECO:0000269|PubMed:[28552616](#)}

## ACSS2 Antibody (Center) - Protocols

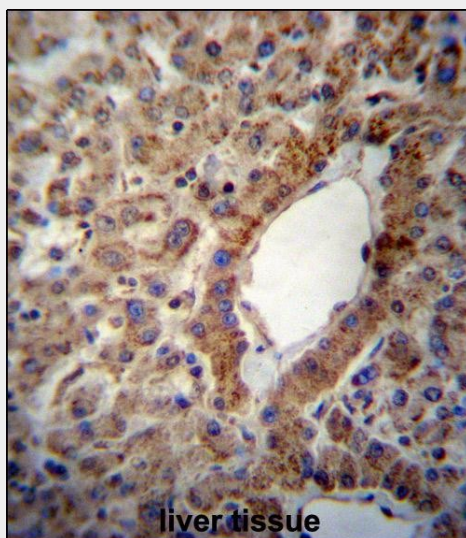
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## ACSS2 Antibody (Center) - Images



ACSS2 Antibody (Center) (Cat. #AP13231c) western blot analysis in HepG2 cell line lysates (35ug/lane). This demonstrates the ACSS2 antibody detected the ACSS2 protein (arrow).



ACSS2 Antibody (Center) (Cat. #AP13231c) immunohistochemistry analysis in formalin fixed and paraffin embedded human liver tissue followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of ACSS2 Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.

#### **ACSS2 Antibody (Center) - Background**

This gene encodes a cytosolic enzyme that catalyzes the activation of acetate for use in lipid synthesis and energy generation. The protein acts as a monomer and produces acetyl-CoA from acetate in a reaction that requires ATP. Expression of this gene is regulated by sterol regulatory element-binding proteins, transcription factors that activate genes required for the synthesis of cholesterol and unsaturated fatty acids. Alternative splicing results in multiple transcript variants. [provided by RefSeq].

#### **ACSS2 Antibody (Center) - References**

Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)  
Yilmaz, S., et al. Genomics 96(1):57-65(2010)  
Ban, H.J., et al. BMC Genet. 11, 26 (2010) :  
Talmud, P.J., et al. Am. J. Hum. Genet. 85(5):628-642(2009)  
Yun, M., et al. J. Nucl. Med. 50(8):1222-1228(2009)