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ACSS2 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP9606a

Specification

ACSS2 Antibody (N-term) - Product Information

Application	**WB,E**
Primary Accession	Q9NR19
Other Accession	Q9QXG4
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**78580**
Antigen Region	**31-60**

ACSS2 Antibody (N-term) - 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 31-60 amino acids from the N-terminal region of human ACSS2.

Dilution
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 (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

ACSS2 Antibody (N-term) - 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).

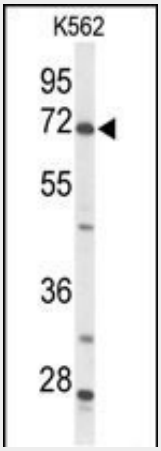
Cellular Location
Cytoplasm, cytosol. Cytoplasm {ECO:0000250|UniProtKB:Q9QXG4}. Nucleus Note=Glucose deprivation results in its AMPK-dependent phosphorylation and subsequent nuclear translocation (PubMed:28552616). Phosphorylation at Ser-659, leads to exposure of its nuclear localization signal which 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 (N-term) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

ACSS2 Antibody (N-term) - Images



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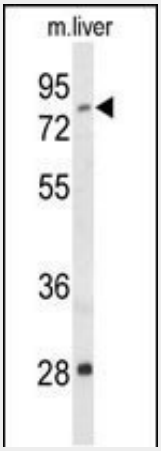
Western blot analysis of ACSS2 Antibody (N-term) (Cat. #AP9606a) in K562 cell line lysates (35ug/lane).ACSS2 (arrow) was detected using the purified Pab.



Western blot analysis of ACSS2 Antibody (N-term) (Cat. #AP9606a) in mouse liver tissue lysates (35ug/lane). ACSS2 (arrow) was detected using the purified Pab.

ACSS2 Antibody (N-term) - Background

ACSS2 is 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.

ACSS2 Antibody (N-term) - References

Yun, M., et al. J. Nucl. Med. 50(8):1222-1228(2009)
Lu, Y., et al. J. Lipid Res. 49(12):2582-2589(2008)
Sugiyama, N., et al. Mol. Cell Proteomics 6(6):1103-1109(2007)