

ACSS2 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP9606a**Specification**

ACSS2 Antibody (N-term) Blocking Peptide - Product InformationPrimary Accession [O9NR19](#)**ACSS2 Antibody (N-term) Blocking Peptide - 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

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

ACSS2 Antibody (N-term) Blocking Peptide - Protein Information

Name ACSS2

Synonyms ACAS2

Function

Catalyzes the synthesis of acetyl-CoA from short-chain fatty acids (PubMed: [10843999](http://www.uniprot.org/citations/10843999), PubMed: [28003429](http://www.uniprot.org/citations/28003429), PubMed: [28552616](http://www.uniprot.org/citations/28552616)). Acetate is the preferred substrate (PubMed: [10843999](http://www.uniprot.org/citations/10843999), PubMed: [28003429](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

ACSS2 Antibody (N-term) Blocking Peptide - Images

ACSS2 Antibody (N-term) Blocking Peptide - 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) Blocking Peptide - 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)