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Anti-ACSS2/Acetyl Coa Synthetase Rabbit Monoclonal Antibody

Catalog # ABO13722

Product Information

Application	WB, IF, ICC
Primary Accession	Q9NR19
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid
Description	Anti-ACSS2/Acetyl Coa Synthetase Rabbit Monoclonal Antibody . Tested in WB, ICC/IF applications. This antibody reacts with Human, Mouse, Rat.

Additional Information

Gene ID	55902
Other Names	Acetyl-coenzyme A synthetase, cytoplasmic, 6.2.1.1, Acetate--CoA ligase, Acetyl-CoA synthetase, ACS, AceCS, Acetyl-CoA synthetase 1, ACSS2, ACAS2
Calculated MW	78580
Application Details	WB 1:500-1:2000 ICC/IF 1:50-1:200
Subcellular Localization	Cytoplasm.
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: IEF-1
Immunogen	A synthesized peptide derived from human ACSS2
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Protein Information

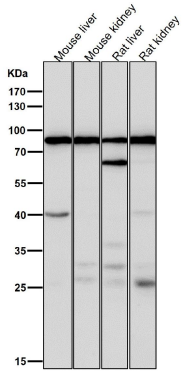
Name	ACSS2

Synonyms ACAS2

Function Catalyzes the synthesis of acetyl-CoA from short-chain fatty acids (PubMed:10843999, PubMed:28003429, PubMed:28552616, PubMed:38369012, PubMed:39561764). Acetate is the preferred substrate (PubMed:10843999, PubMed:28003429, PubMed:38369012, PubMed:39561764). Can also utilize propionate with a much lower affinity (PubMed:38369012). Catalyzes the conversion of lactate into lactoyl-CoA (PubMed:39561764). Does not catalyze the conversion of butyrate or crotonate to their corresponding acyl-CoAs (PubMed:38369012). 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).

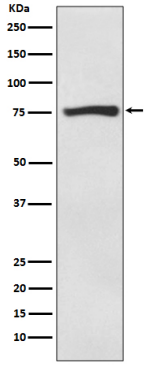
Cellular Location Cytoplasm, cytosol. Cytoplasm {ECO:0000250|UniProtKB:Q9QXG4}. Nucleus Note=Glucose deprivation results in its AMPK-dependent phosphorylation and subsequent nuclear translocation (PubMed:28552616). Phosphorylation at Ser-659, leads to exposure of its nuclear localization signal which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

Images



All lanes use the Antibody at 1:2K dilution for 1 hour at room temperature.

Western blot analysis of ACSS2 expression in HepG2 cell lysate.



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