10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-ACSS2 (RABBIT) Antibody
ACSS2 Antibody
Catalog # ASR5591

Specification

Anti-ACSS2 (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Human**
Clonality	**Polyclonal**
Application	**WB, E, I, LCI**
Application Note	**Anti-ACSS2 Antibody has been tested in Western Blot and ELISA. Expect a band at approximately 76 kDa in western blot using appropriate lysates. Positive control whole cell lysates used Hep-G2 at 1 µg/mL for WB. Although not tested, this antibody is likely functional in immunohistochemistry, immunofluorescence, and immunoprecipitation.**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
Immunogen	**ACSS2 affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with synthetic peptide near the N-term of human ACSS2.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-ACSS2 (RABBIT) Antibody - Additional Information

Gene ID 55902

Other Names
55902

Purity
This affinity purified antibody is directed against human ACSS2 protein. Anti-ACSS2 Antibody to was affinity purified from monospecific antiserum by immunoaffinity chromatography. Blast analysis of the sequence of the immunogen shows 100% identity with human and 80% identity to mouse.

Storage Condition
Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-ACSS2 (RABBIT) Antibody - 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}

Anti-ACSS2 (RABBIT) Antibody - Protocols

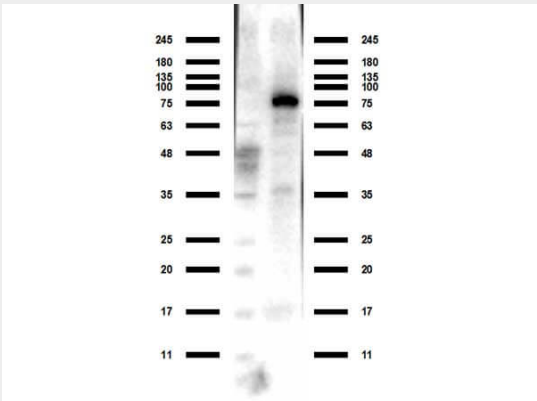
Provided below are standard protocols that you may find useful for product applications.

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

10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

- Cell Culture

Anti-ACSS2 (RABBIT) Antibody - Images



Western Blot of Rabbit anti-ACSS2 antibody. Lane 1: MW ladder Opal pre-stained (p/n MB-210-0500). Lane 2: HEP-G2 WCL (p/n W09-001-GJ5). Load: 10 ug per lane. Primary antibody: ACSS2 antibody at 1:1000 for overnight at 4°C. Secondary antibody: rabbit secondary HRP antibody (p/n 611-103-122) at 1:70,000 for 30 min at RT. Block: BlockOut (p/n MB-073) for 30 min at RT. Predicted/Observed size: Expect 76 kDa for ACSS2 protein.

Anti-ACSS2 (RABBIT) Antibody - Background

This antibody is designed, produced, and validated as part of a collaboration between Rockland and the National Cancer Institute (NCI). ACSS2 (Acyl-CoA synthetase short-chain family member 2) is a protein coding gene encoding a cytosolic enzyme that catalyzes the activation of acetate for use in lipid synthesis and energy generation. This 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. This protein is upregulated in many cancers and is important for pro-survival under hypoxic conditions. ACSS2 may be associated with disorders such as Cystoisosporiasis. Anti-ACSS2 Antibody is useful for researchers interested in parasites, intestines, Glucose Energy Metabolism, and AKT research.