abcam

ab249129

Anti-ACADS/SCAD antibody [EPR10861(B)] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR10861(B)
Purification technique	Affinity purification Protein A
Concentration	0.966 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-

Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.

Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information Short-chain specific acyl-CoA dehydrogenase, mitochondrial

Function	Short-chain specific acyl-CoA dehydrogenase is one of the acyl-CoA dehydrogenases that catalyze the first step of mitochondrial fatty acid beta-oxidation, an aerobic process breaking down fatty acids into acetyl-CoA and allowing the production of energy from fats (By similarity). The first step of fatty acid beta-oxidation consists in the removal of one hydrogen from C-2 and C-3 of the straight-chain fatty acyl-CoA thioester, resulting in the formation of trans-2-enoyl-CoA (By similarity). Among the different mitochondrial acyl-CoA dehydrogenases, short-chain specific acyl-CoA dehydrogenase acts specifically on acyl-CoAs with saturated 4 to 6 carbons long primary chains (PubMed:11134486, PubMed:21237683).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab249129 is the carrier-free version of ab154823.

Patented technology

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?

This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The ACADS protein also known as short-chain acyl-CoA dehydrogenase (SCAD) is an enzyme that plays a mechanical role in the mitochondrial fatty acid beta-oxidation process. It catalyzes the dehydrogenation of acyl-CoA substrates specifically short-chain fatty acids. The molecular mass of the ACADS protein is approximately 44 kDa. Expression of the ACADS protein occurs in the mitochondria of various tissues especially in liver and muscle tissues where fatty acid metabolism is active.
Biological function summary	The function of ACADS involves the conversion of fatty acids into acetyl-CoA an essential step in energy production. ACADS operates in concert with other enzymes in the mitochondrial matrix contributing to the beta-oxidation cycle. This enzyme is essential for maintaining energy homeostasis particularly during periods of fasting or increased energy demands. Although ACADS is not a component of a larger enzyme complex it works closely with other dehydrogenases that metabolize different chain lengths of fatty acids.
Pathways	The ACADS enzyme is critically involved in the fatty acid beta-oxidation pathway. This pathway is vital for energy production especially in cardiac and skeletal muscles. ACADS is functionally related to other enzymes such as MCAD (medium-chain acyl-CoA dehydrogenase) and VLCAD (very long-chain acyl-CoA dehydrogenase) through the sequential processing of fatty acids of varying chain lengths. Proper functioning of the beta-oxidation pathway ensures that fatty acids are systematically broken down to meet the body's energetic needs.
Associated diseases and disorders	Defects in ACADS are associated with metabolic disorders namely short-chain acyl-CoA dehydrogenase deficiency (SCADD). This condition can result in muscle weakness developmental delay and hypoglycemia. ACADS is also indirectly linked to disorders involving MCAD as both enzymes function within the same metabolic pathway. Accurate diagnosis and management of SCADD rely on understanding

the role of ACADS and its interactions with interconnected proteins in the metabolic network.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

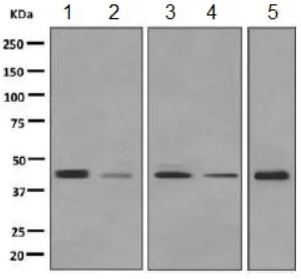
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

1 product image



Western blot - Anti-ACADS/SCAD antibody [EPR10861(B)] - BSA and Azide free (ab249129)

ACADS/SCAD Western blot staining using rabbit Anti-ACADS/SCAD antibody

This data was developed using ab154823, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-ACADS/SCAD antibody [EPR10861(B)] - BSA and Azide free (ab249129) at 1/1000 dilution

Lane 1:
HeLa cell lysate at 10 µg

Lane 2:
HepG2 cell lysate at 10 µg

Lane 3:

293T cell lysate at 10 µg

Lane 4:
Human fetal heart tissue lysate at 10 µg

Lane 5:
Human fetal liver tissue lysate at 10 µg

Predicted band size: 44 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.