abcam

ab240371

Anti-ELOVL5 antibody [EPR17151] - 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	EPR17151
Purification technique	Affinity purification Protein A
Specificity	When testing sample with low protein level, we recommend uploading more amount of lysate, using lower antibody dilution, and using higher sensitivity ECL substrate. We also recommend trying 1%SDS Hot lysis prepare method to get desired Western Blot results.
Concentration	0.979 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Expected

Species	Mouse, Rat, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information ELOVL5

Function	Catalyzes the first and rate-limiting reaction of the four reactions that constitute the long-chain fatty acids elongation cycle. This endoplasmic reticulum-bound enzymatic process allows the addition of 2 carbons to the chain of long- and very long-chain fatty acids (VLCFAs) per cycle. Condensing enzyme that acts specifically toward polyunsaturated acyl-CoA with the higher activity toward C18:3(n-6) acyl-CoA. May participate in the production of monounsaturated and of polyunsaturated VLCFAs of different chain lengths that are involved in multiple biological processes as precursors of membrane lipids and lipid mediators (By similarity) (PubMed:10970790, PubMed:20937905). In conditions where the essential linoleic and alpha linoleic fatty acids are lacking it is also involved in the synthesis of Mead acid from oleic acid (By similarity).

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

ab240371 is the carrier-free version of ab205535.

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	ELOVL5 also known as elongation of very long chain fatty acids protein 5 is an important enzyme involved in the elongation process of fatty acids. It is part of a family that catalyzes the first and rate-limiting step of the elongation cycle adding two carbon units to the acyl chain. ELOVL5 is mainly found in tissues with high lipid metabolism including liver and brain with significant expression also noted in breast tissue. It has a molecular weight of approximately 33.5 kDa.
Biological function summary	ELOVL5 contributes to the metabolism of polyunsaturated fatty acids (PUFAs) which are important components of cell membranes and precursors to signaling molecules. It does not function alone but as part of a multi-enzyme complex that includes desaturases and reductases which enables the efficient synthesis of very long chain fatty acids (VLCFAs). These VLCFAs are critical for maintaining membrane fluidity and for cell signaling processes.
Pathways	ELOVL5 plays a significant role in the biosynthesis pathway of polyunsaturated fatty acids. It works alongside other enzymes such as desaturases to produce long-chain PUFAs from shorter precursor fatty acids. This process is important for the homeostasis of lipid signaling and membrane architecture. ELOVL5 also interacts with ELOVL6 another enzyme within the fatty acid elongation pathway indicating a coordinated interplay in fatty acid metabolism.
Associated diseases and disorders	Mutations or deficiencies in ELOVL5 can lead to conditions affecting lipid metabolism. One such disorder is spinocerebellar ataxia 38 (SCA38) a neurodegenerative disorder characterized by issues with movement and balance. Research also suggests a link between ELOVL5 and autism spectrum disorders (ASD) though this connection requires further investigation. In these disorders ELOVL5 often interacts with other proteins involved in lipid processing such as fatty acid synthase (FASN) underlying the complex nature of these diseases.

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.

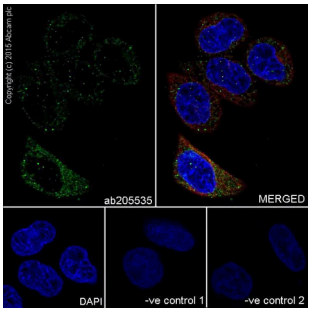
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

---

4 product images



Immunocytochemistry/ Immunofluorescence - Anti-ELOVL5 antibody [EPR17151] - BSA and Azide free (ab240371)

ELOVL5 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ELOVL5 antibody

Immunofluorescent analysis of 100% methanol-fixed, 0.1% Triton X-100 permeabilized HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling ELOVL5 with ab205535 at 1/100 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green).
Confocal image showing cytoplasmic staining on HeLa cell line.

The nuclear counter stain is DAPI (blue).

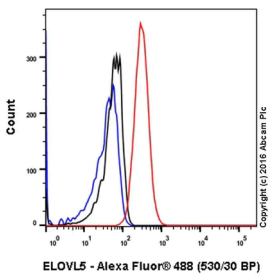
Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/1000 dilution (red).

The negative controls are as follows:-

-ve control 1: ab205535 at 1/100 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/1000 dilution.

-ve control 2: ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/1000 dilution.

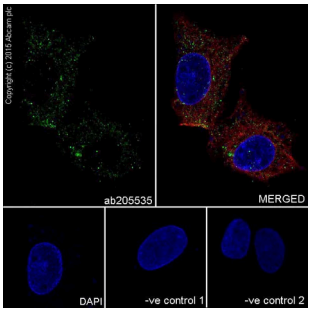
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab205535).



Flow Cytometry (Intracellular) - Anti-ELOVL5 antibody [EPR17151] - BSA and Azide free (ab240371)

ELOVL5 Flow Cytometry (Intracellular) staining using rabbit Anti-ELOVL5 antibody

Intracellular Flow Cytometry analysis of HeLa cells labelling ELOVL5 with ab205535 at 1/20 (red). Cells were fixed with 4% paraformaldehyde and permeabilized with 90% methanol. An Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/2000) was used as the secondary antibody. Black - Isotype control, rabbit monoclonal IgG. Blue - Unlabelled control, cells without incubation with primary and secondary antibodies.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab205535).



Immunocytochemistry/ Immunofluorescence - Anti-ELOVL5 antibody [EPR17151] - BSA and Azide free (ab240371)

ELOVL5 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ELOVL5 antibody

Immunofluorescent analysis of 100% methanol-fixed, 0.1% Triton X-100 permeabilized HepG2 (Human liver hepatocellular carcinoma) cells labeling ELOVL5 with ab205535 at 1/100 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green).
Confocal image showing cytoplasmic staining on HepG2 cell line.

The nuclear counter stain is DAPI (blue).

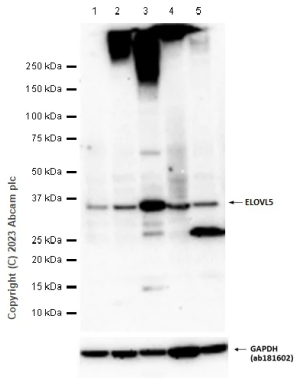
Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/1000 dilution (red).

The negative controls are as follows:-

-ve control 1: ab205535 at 1/100 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/1000 dilution.

-ve control 2: ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/1000 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab205535).



Western blot - Anti-ELOVL5 antibody [EPR17151] - BSA and Azide free (ab240371)

Blocking buffer and concentration: 5% NFDM/TBST. **Diluting buffer and concentration:** 5% NFDM/TBST. When testing sample with low protein level, we recommend uploading more amount of lysate, using lower antibody dilution, and using higher sensitivity ECL substrate. We also recommend trying 1%SDS Hot lysis prepare method to get desired Western Blot results. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab205535).
All lanes:
Western blot - Anti-ELOVL5 antibody [EPR17151] (ab205535) at 1/1000 dilution

Lane 1:
HepG2 (Human hepatocellular carcinoma epithelial cell) whole cell lysate prepared in RIPA lysis method at 20 µg

Lane 2:
MCF7 (Human breast adenocarcinoma epithelial cell) whole cell lysate prepared in RIPA lysis method at 20 µg

Lane 3:
MCF7 (Human breast adenocarcinoma epithelial cell) whole cell lysate prepared in 1%SDS Hot lysis method at 20 µg

Lane 4:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate prepared in RIPA lysis method at 20 µg

Lane 5:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate prepared in 1%SDS Hot lysis method at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 35 kDa

Observed band size: 35 kDa

Exposure time: 180s

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