abcam

ab315158

Anti-SPTLC1 antibody [EPR26226-221]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR26226-221
Purification technique	Affinity purification Protein A
Concentration	0.497 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Species	Recombinant fragment - Human

Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/2000
Notes	-

Not recommended

Species	Mouse, Rat, Recombinant fragment - Human
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Not recommended

Species	Mouse, Rat, Recombinant fragment - Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Not recommended

Species	Mouse, Rat, Recombinant fragment - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat, Recombinant fragment - Human
Dilution info	-
Notes	-

Target data

See full target information SPTLC1

Function Component of the serine palmitoyltransferase multisubunit enzyme (SPT) that catalyzes the initial and rate-limiting step in sphingolipid biosynthesis by condensing L-serine and activated acyl-CoA (most commonly palmitoyl-CoA) to form long-chain bases. The SPT complex is also composed of SPTLC2 or SPTLC3 and SPTSSA or SPTSSB. Within this complex, the heterodimer with SPTLC2 or SPTLC3 forms the catalytic core (PubMed:19416851, PubMed:33558762, PubMed:36170811). The composition of the serine palmitoyltransferase (SPT)

complex determines the substrate preference (PubMed:19416851, PubMed:33558762). The SPTLC1-SPTLC2-SPTSSA complex shows a strong preference for C16-CoA substrate, while the SPTLC1-SPTLC3-SPTSSA isozyme uses both C14-CoA and C16-CoA as substrates, with a slight preference for C14-CoA (PubMed:19416851, PubMed:19648650). The SPTLC1-SPTLC2-SPTSSB complex shows a strong preference for C18-CoA substrate, while the SPTLC1-SPTLC3-SPTSSB isozyme displays an ability to use a broader range of acyl-CoAs, without apparent preference (PubMed:19416851, PubMed:19648650, PubMed:33558761, PubMed:33558762). Required for adipocyte cell viability and metabolic homeostasis (By similarity).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

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.

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

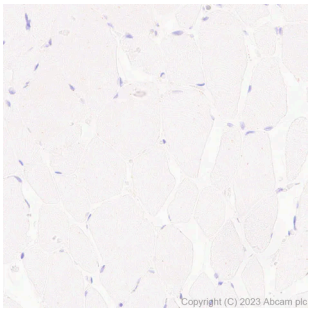
We do not recommend this combination. It is not covered by our product promise.

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.

12 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SPTLC1 antibody [EPR26226-221] (ab315158)

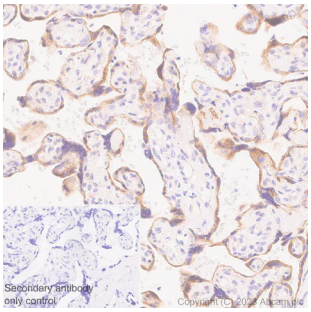
SPTLC1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human skeletal muscle using rabbit Anti-SPTLC1 antibody

Immunohistochemical analysis of paraffin-embedded Human skeletal muscle tissue labeling SPTLC1 with ab315158 at 1/2000 (0.249 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Negative control: No staining on human skeletal muscle. The section was incubated with ab315158 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



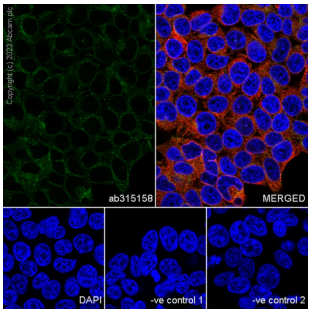
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SPTLC1 antibody [EPR26226-221] (ab315158)

Immunohistochemical analysis of paraffin-embedded Human placenta tissue labeling SPTLC1 with ab315158 at 1/2000 (0.249 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human placenta. The section was incubated with ab315158 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



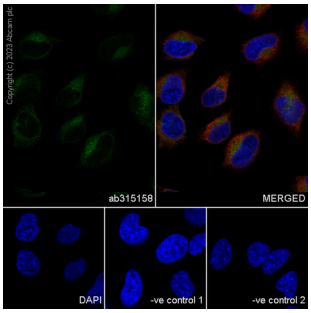
Immunocytochemistry/ Immunofluorescence - Anti-SPTLC1 antibody [EPR26226-221] (ab315158)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized 293T (human embryonic kidney epithelial cell) cells labelling SPTLC1 with ab315158 at 1/50 (9.94 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/ml) dilution (Green).

Confocal image showing cytoplasmic staining in 293T cell line. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Anti-KDEL mouse monoclonal antibody was used to counterstain tubulin at 1/100 (1 ug/ml) dilution (Red). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/ml) dilution.



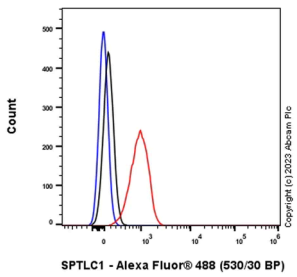
Immunocytochemistry/ Immunofluorescence - Anti-SPTLC1 antibody [EPR26226-221] (ab315158)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HeLa (human cervical adenocarcinoma epithelial cell) cells labelling SPTLC1 with ab315158 at 1/50 (9.94 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/ml) dilution (Green).

Confocal image showing cytoplasmic staining in HeLa cell line. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Anti-KDEL mouse monoclonal antibody was used to counterstain tubulin at 1/100 (1 ug/ml) dilution (Red). The Nuclear counterstain was DAPI (Blue).

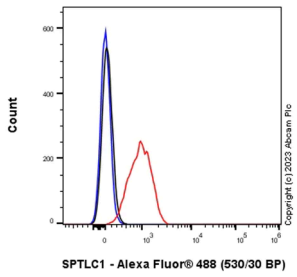
Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/ml) dilution.



Flow Cytometry (Intracellular) - Anti-SPTLC1 antibody [EPR26226-221] (ab315158)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized 293T (human embryonic kidney epithelial cell) cells labelling SPTLC1 with ab315158 at 1/500 dilution (0.1 ug, Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

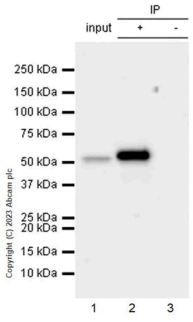
Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Flow Cytometry (Intracellular) - Anti-SPTLC1 antibody [EPR26226-221] (ab315158)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HeLa (human cervical adenocarcinoma epithelial cell) cells labelling SPTLC1 with ab315158 at 1/500 dilution (0.1 ug, Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-SPTLC1 antibody [EPR26226-221] (ab315158)

SPTLC1 was immunoprecipitated from 0.35 mg HepG2 (human hepatocellular carcinoma epithelial cell) whole cell lysate with ab315158 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab315158 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.

Lane 1: HepG2 (human hepatocellular carcinoma epithelial cell) whole cell lysate

Lane 2: ab315158 IP in HepG2 (human hepatocellular carcinoma epithelial cell) whole cell lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab315158 in HepG2 whole cell lysate

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

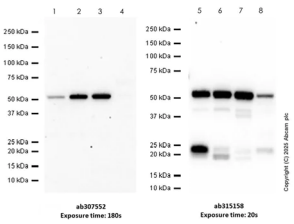
All lanes:
Immunoprecipitation - Anti-SPTLC1 antibody [EPR26226-221] (ab315158) at 1/30 dilution

All lanes:
HepG2 (human hepatocellular carcinoma epithelial cell) whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 24s



Western blot - Anti-SPTLC1 antibody [EPR26226-221] (ab315158)

SPTLC1 Western blot staining using rabbit Anti-SPTLC1 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Compared with ab307552, ab315158 has higher sensitivity. We recommend ab315158 as an alternative.

Lanes 1 - 4:
Western blot - Anti-SPTLC1 antibody [EPR26226-136] (ab307552) at 1/1000 dilution

Lanes 5 - 8:
Western blot - Anti-SPTLC1 antibody [EPR26226-221] (ab315158) at 1/1000 dilution

Lanes 1 and 5:
HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lanes 2 and 6:
293T (human embryonic kidney epithelial cell) whole cell lysate

Lanes 3 and 7:
HepG2 (human hepatocellar carcinoma epithelial cell) whole cell lysate at 20 µg

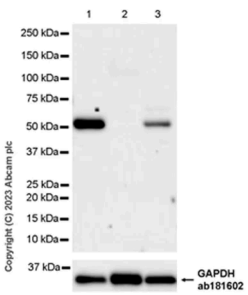
Lanes 4 and 8:
Human small intestine tissue lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Observed band size: 54 kDa

Exposure time: 60s



Western blot - Anti-SPTLC1 antibody [EPR26226-221] (ab315158)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Low expression: human small intestine, skeletal muscle (PMID:17023427).

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-SPTLC1 antibody [EPR26226-221] (ab315158) at 1/1000 dilution

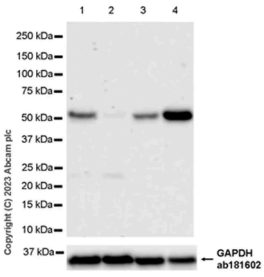
Lane 1:
Human placenta tissue lysate at 20 µg

Lane 2:
Human skeletal muscle tissue lysate at 20 µg

Lane 3:
Human small intestine tissue lysate at 20 µg

Observed band size: 53 kDa, 36 kDa

Exposure time: 48s



Western blot - Anti-SPTLC1 antibody [EPR26226-221] (ab315158)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-SPTLC1 antibody [EPR26226-221] (ab315158) at 1/1000 dilution

Lane 1:
HeLa (human cervical adenocarcinoma epithelial cell) transfected with scrambled siRNA control whole cell lysate at 20 µg

Lane 2:
HeLa transfected with siRNA specifically targeting SPTLC1 whole cell lysate at 20 µg

Lane 3:
Jurkat (human t cell leukemia t lymphocyte from peripheral blood) whole cell lysate at 20 µg

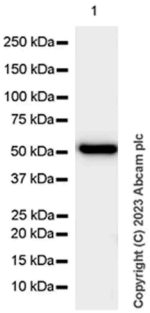
Lane 4:
HepG2 (human hepatocellular carcinoma epithelial cell) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 53 kDa, 36 kDa

Exposure time: 180s



Western blot - Anti-SPTLC1 antibody [EPR26226-221] (ab315158)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

All lanes:
Western blot - Anti-SPTLC1 antibody [EPR26226-221] (ab315158) at 1/1000 dilution

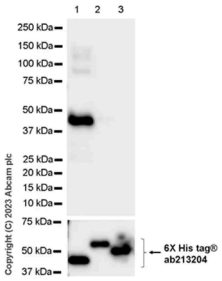
All lanes:
293T (human embryonic kidney epithelial cell) whole cell lysate at 20 µg

Secondary

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

Observed band size: 53 kDa

Exposure time: 15s



Western blot - Anti-SPTLC1 antibody [EPR26226-221] (ab315158)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

This antibody does not cross-react with human SPTLC2 and SPTLC3.

In Western blot, Anti-6X His tag® antibody [EPR20547] - ChIP Grade (ab213204) staining at 1/5000 dilution.

All lanes:
Western blot - Anti-SPTLC1 antibody [EPR26226-221] (ab315158) at 1/1000 dilution

Lane 1:
His-tagged human SPTLC1 recombinant protein fragment at 10 ng

Lane 2:
His-tagged human SPTLC2 recombinant protein fragment at 10 ng

Lane 3:
His-tagged human SPTLC3 recombinant protein fragment at 10 ng

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 46 kDa

Exposure time: 15s

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