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SPTLC1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2534a

Product Information

Application	WB, E
Primary Accession	O15269
Other Accession	Q60HD1
Reactivity	Human, Mouse
Predicted	Monkey
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB4763
Calculated MW	52744
Antigen Region	26-57

Additional Information

Gene ID	10558
Other Names	Serine palmitoyltransferase 1, Long chain base biosynthesis protein 1, LCB 1, Serine-palmitoyl-CoA transferase 1, SPT 1, SPT1, SPTLC1, LCB1
Target/Specificity	This SPTLC1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 26-57 amino acids from the N-terminal region of human SPTLC1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	SPTLC1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SPTLC1
Synonyms	LCB1

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).
Cellular Location	Endoplasmic reticulum membrane; Single-pass membrane protein {ECO:0000250|UniProtKB:O35704}
Tissue Location	Widely expressed. Not detected in small intestine.

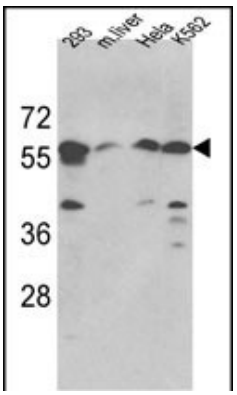
Background

Serine palmitoyltransferase (SPT) is the key enzyme in sphingolipid biosynthesis. It catalyzes the pyridoxal-5-prime-phosphate-dependent condensation of L-serine and palmitoyl-CoA to 3-oxosphinganine.

References

Stachowitz, S., et al., J. Invest. Dermatol. 119(5):1048-1052 (2002).
Nicholson, G.A., et al., Am. J. Hum. Genet. 69(3):655-659 (2001).
Dawkins, J.L., et al., Nat. Genet. 27(3):309-312 (2001).
Bejaoui, K., et al., Nat. Genet. 27(3):261-262 (2001).
Perry, D.K., et al., J. Biol. Chem. 275(12):9078-9084 (2000).

Images



Western blot analysis of hSPTLC1-S41 (Cat. #AP2534a) in 293, Hela, K562 cell line and mouse liver tissue lysates (35ug/lane). SPTLC1 (arrow) was detected using the purified Pab.