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SPT2 Antibody
Catalog # ASC11323

Specification

SPT2 Antibody - Product Information

Application	**WB, ICC, IF**
Primary Accession	O15270
Other Accession	NP_004854, 4758668
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Application Notes	**SPT2 antibody can be used for detection of SPT2 by Western blot at 1 µg/mL. Antibody can also be used for immunocytochemistry starting at 10 µg/mL. For immunofluorescence start at 20 µg/mL.**

SPT2 Antibody - Additional Information

Gene ID **9517**

Target/Specificity
SPTLC2; At least three isoforms of SPT2 are known to exist; this antibody will not detect isoform b. SPT2 antibody is predicted to not cross-react with SPT1.

Reconstitution & Storage
SPT2 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions
SPT2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

SPT2 Antibody - Protein Information

Name SPTLC2 (HGNC:11278)

Synonyms KIAA0526, LCB2

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 (PubMed:19648650, PubMed:19416851, PubMed:20920666, PubMed:20504773). The SPT complex is composed of SPTLC1, SPTLC2 or SPTLC3 and SPTSSA or SPTSSB. Within this complex,

the heterodimer consisting of SPTLC1 and SPTLC2/SPTLC3 forms the catalytic core (PubMed:19416851). The composition of the serine palmitoyltransferase (SPT) complex determines the substrate preference (PubMed:19416851). 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:19648650, PubMed:19416851). 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:19648650, PubMed:19416851). Crucial for adipogenesis (By similarity).

Cellular Location
Endoplasmic reticulum membrane {ECO:0000250|UniProtKB:P97363}; Single-pass membrane protein {ECO:0000250|UniProtKB:P97363}

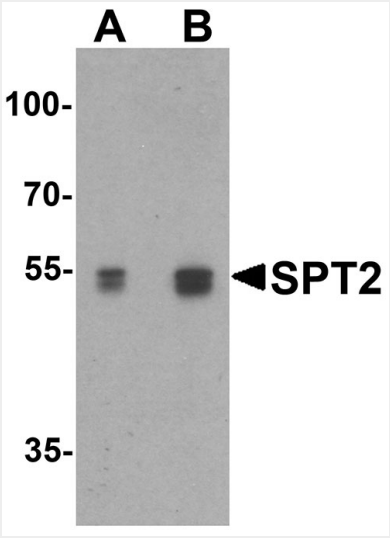
Tissue Location
Widely expressed..

SPT2 Antibody - Protocols

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

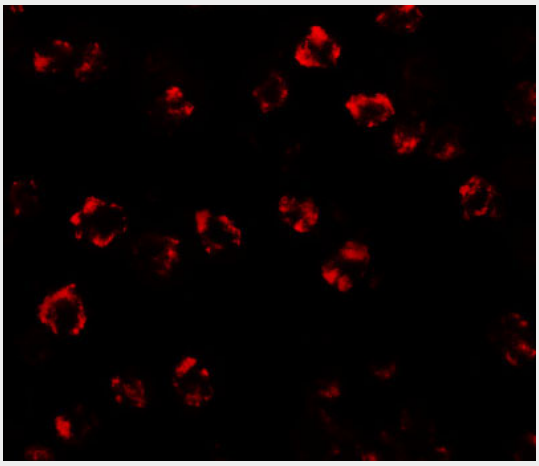
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

SPT2 Antibody - Images



Western blot analysis of SPT2 in 3T3 cell lysate with SPT2 antibody at 0.5 µg/mL in (A) the absence and (B) the presence of blocking peptide.

Immunocytochemistry of SPT2 in 3T3 cells with SPT2 antibody at 10 µg/mL.



Immunofluorescence of SPT2 in 3T3 cells with SPT2 antibody at 20 µg/mL.

SPT2 Antibody - Background

SPT2 Antibody: Serine palmitoyltransferase (SPT), which consists of two different subunits, is the key enzyme in sphingolipid biosynthesis. It converts L-serine and palmitoyl-CoA to 3-oxosphinganine with pyridoxal 5'-phosphate as a cofactor. SPT2 is the long chain base subunit 2 of mammalian serine palmitoyltransferase. SPT2 is catalytically active but needs its related protein SPT1 for its stabilization and anchoring the holoenzyme to the cytosolic face of the endoplasmic reticulum. As in the case with SPT1, mutations in the SPT2 gene can cause hereditary sensory and autonomic neuropathy type I (HSAN-I), resulting from a loss of SPT activity as well as the accumulation of the atypical and neurotoxic sphingoid metabolite 1-deoxy-sphinganine.

SPT2 Antibody - References

Batheja AD, Uhlinger DJ, Carton JM, et al. Characterization of serine palmitoyltransferase in normal human tissues. J. Histochem. & Cytochem. 2003; 51:687-96.
Nagiec MM, Lester RL, and Dickson RC. Sphingolipid synthesis: identification and characterization of mammalian cDNAs encoding the Lcb2 subunit of serine palmitoyltransferase. Gene 1996; 177:237-41.
Yasuda S, Nishijima N, and Hanada K. Localization, topology, and function of the LCB1 subunit of serine palmitoyltransferase in mammalian cells. J. Biol. Chem. 2003; 278:4176-83.
Rotthier A, Auer-Grumbach M, Janssens K, et al. Mutations in the SPTLC2 subunit of serine palmitoyltransferase cause hereditary sensory and autonomic neuropathy type I. Am. J. Hum.

Genet. 2010; 87:513-22.