10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

LASS5 Antibody

Catalog # ASC10728

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q8N5B7
Other Accession	NP_671723, 22218345
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	45752
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	LASS5 antibody can be used for detection of LASS5 by Western blot at 1 - 2 g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	91012
Other Names	Ceramide synthase 5, CerS5, 2.3.1.24, LAG1 longevity assurance homolog 5, CERS5, LASS5
Target/Specificity	LASS5; Multiple isoforms of LASS5 are known to exist. This antibody may cross-react with the highly homologous LASS6.
Reconstitution & Storage	LASS5 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	LASS5 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CERS5 (HGNC:23749)
Function	Ceramide synthase that catalyzes the transfer of the acyl chain from acyl-CoA to a sphingoid base, with high selectivity toward palmitoyl-CoA (hexadecanoyl-CoA; C16:0-CoA) (PubMed:16951403, PubMed:18541923, PubMed:22144673, PubMed:22661289, PubMed:23530041, PubMed:26887952, PubMed:29632068, PubMed:31916624). Can use other acyl donors, but with less efficiency (By similarity). N-acylates sphinganine and sphingosine bases to form dihydroceramides and ceramides in de novo synthesis and salvage pathways, respectively (PubMed:31916624). Plays a role

	in de novo ceramide synthesis and surfactant homeostasis in pulmonary epithelia (By similarity).
Cellular Location	Endoplasmic reticulum membrane {ECO:0000250|UniProtKB:Q9D6K9}; Multi-pass membrane protein

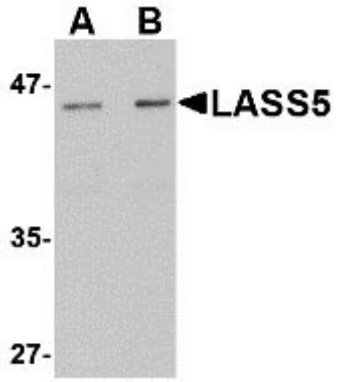
Background

LASS5 Antibody: The LASS (longevity assurance homolog) family members represent a subgroup of the homeobox gene family and are highly conserved from yeasts to mammals. Six members of this family of proteins have been characterized (LASS1-6) and all are involved in ceramide synthesis during cell growth regulation and cancer differentiation. LASS5, also called Trh4, is a 392 amino acid endoplasmic reticulum, multi-pass membrane protein. Functioning as a dihydro-ceramide synthase, LASS5 is involved in the production of sphingolipids containing mainly one fatty acid donor (N-linked palmitoyl-ceramide) in a fumonisin B1-independent manner. It uses palmitoyl-CoA as an acyl donor and is involved in the synthesis of C14, C16 and C18-ceramide. LASS5 is the most abundantly expressed and predominant ceramide synthase isoform in lung epithelia. Recent studies show that LASS5 partially correct growth and apoptosis.

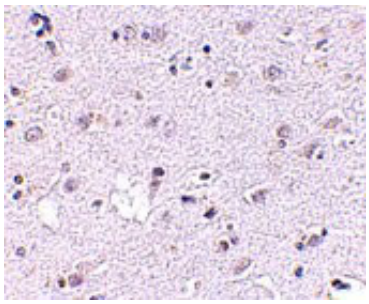
References

Riebeling C, Allegood JC, Wang E, et al. Two mammalian longevity assurance gene (LAG1) family members, Trh1 and Trh, regulate dihydroceramide synthesis using different fatty acyl-CoA donors. J. Biol. Chem.2003; 278:43452-9.
Lahiri S and Futerman AH. LASS5 is a bona fide dihydroceramide synthase that selectively utilizes palmitoyl-CoA as acyl donor. J. Biol Chem.2005; 280:33735-8.
Spassieva S, Seo JG, Jiang JC, et al. 2006. Necessary role for the LAG1p motif in (dihydro)ceramide synthase activity. J. Biol. Chem.2006; 281:33931-8.
Xu Z, Zhou J, McCoy DM, et al. LASS5 is the predominant ceramide synthase isoform involved in de novo sphingolipid synthesis in lung epithelia. J. Lipid Res.2005; 46:1229-38.

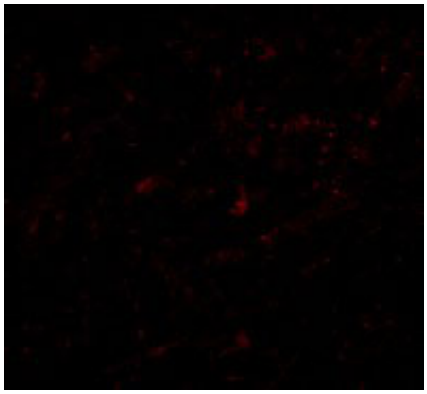
Images



Western blot analysis of LASS5 in rat brain tissue lysate with LASS5 antibody at (A) 1 and (B) 2 µg/mL.



Immunohistochemistry of LASS5 in human brain tissue with LASS5 antibody at 2.5 µg/mL.



Immunofluorescence of LASS5 in Human Brain cells with LASS5 antibody at 20 µg/mL.