Technical Data Sheet

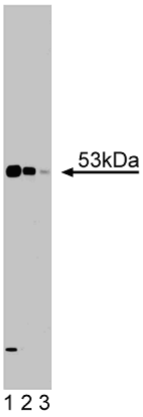
Purified Mouse Anti-LCB1

Product Information

Material Number:	**611305**
Size:	150 µg
Concentration:	250 µg/ml
Clone:	49/LCB1
Immunogen:	Mouse LCB1 aa. 121-238
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Rat Tested in Development: Mouse, Human
Target MW:	53 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Sphingolipid biosynthesis is initiated by condensation of L-serine with palmitoyl coenzyme A, a reaction catalyzed by serine palmitoyltransferase (SPT). SPT is the rate-determining enzyme in the sphingolipid pathway. This enzyme is a key component for regulating cellular sphingolipid content. Initially identified in SPT-deficient *S. cerevisiae* strains, LCB1 and LCB2 homologs have been identified and characterized in mouse, human, and CHO cell lines. The mammalian LCB1 protein has 35% amino acid identity with yeast LCB1, while the mammalian LCB2 protein has 43% amino acid identity with yeast LCB2. Both LCB1 and LCB2 are transmembrane proteins containing protein localization sites, predicting they are membrane-bound enzymes enriched in the endoplasmic reticulum. In mouse tissue, LCB1 and LCB2 are expressed ubiquitously, with the highest levels detected in kidney and brain. Transfection of SPT-defective CHO mutant strains with LCB1-expressing plasmid restores both SPT activity and *de novo* sphingolipid synthesis to wild type levels. Thus, LCB1 may be an essential component of SPT activity during mammalian sphingolipid biosynthesis.



Western blot analysis of LCB1 on a rat kidney lysate.
Lane 1: 1:2500, lane 2: 1:5000, lane 3: 1:10,000 dilution of the mouse anti-LCB1 antibody.

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20°C.

Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development

Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml

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Suggested Companion Products

Catalog Number	Name	Size	Clone
611466	Rat Kidney Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Hanada K, Hara T, Nishijima M, Kuge O, Dickson RC, Nagiec MM. A mammalian homolog of the yeast LCB1 encodes a component of serine palmitoyltransferase, the enzyme catalyzing the first step in sphingolipid synthesis. *J Biol Chem.* 1997; 272(51):32108-32114.(Biology)

Weiss B, Stoffel W. Human and murine serine-palmitoyl-CoA transferase--cloning, expression and characterization of the key enzyme in sphingolipid synthesis. *Eur J Biochem.* 1997; 249(1):239-247.(Biology)