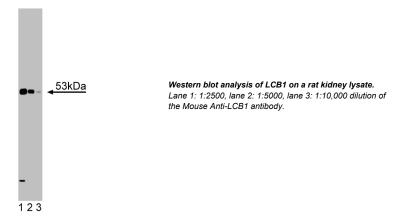
# Technical Data Sheet

# Purified Mouse Anti-LCB1

Material Number:	611304
Size:	50 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.



# **Preparation and Storage**

Store undiluted at -20°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

#### **Application Notes**

Application
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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)	
<b>BD Biosciences</b>						
bdbiosciences.com					l l l l l l l l l l l l l l l l l l l	
United States Canada 877.232.8995 800.979.9408	Europe Japan 32.53.720.550 0120.8555.90	Asia Pacific 65.6861.0633	Latin America/Caribbean 55.11.5185.9995			M BD
For country contact informati	on, visit bdbiosciences.com/conta	ct				
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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. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
- 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. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

#### 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)

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