SANTA CRUZ BIOTECHNOLOGY, INC.

LCMT1 (C-8): sc-365064

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Protein phosphatase 2A (PP2A) is a serine/threonine (Ser/Thr) phosphatase that is thought to be involved in cell growth and proliferation events and may be associated with tumor progression. The activity of PP2A is regulated by a variety of mechanisms, one of which is the reversible methylation by select methyltransferases. LCMT1 (leucine carboxyl methyltransferase 1), also known as LCMT, PPMT1 or CGI-68, is a 334 amino acid member of the methyltransferase superfamily that is involved in the regulation of PP2A. Specifically, LCMT1 catalyzes the methylation of the carboxy group on the C-terminal leucine of the PP2A catalytic subunit (designated PP2Aα). Via its ability to regulate PP2A function, LCMT1 may be critical for normal mitotic progression and overall cell survival. Two isoforms of LCMT1 are expressed due to alternative splicing events.

REFERENCES

1. De Baere, I., et al. 1999. Purification of porcine brain protein phosphatase 2A leucine carboxyl methyltransferase and cloning of the human homologue. Biochemistry 38: 16539-16547.
2. Lai, C.H., et al. 2000. Identification of novel human genes evolutionarily conserved in *Caenorhabditis elegans* by comparative proteomics. Genome Res. 10: 703-713.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610286. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Longin, S., et al. 2007. Selection of protein phosphatase 2A regulatory subunits is mediated by the C terminus of the catalytic subunit. J. Biol. Chem. 282: 26971-26980.
5. Lee, J.A. and Pallas, D.C. 2007. Leucine carboxyl methyltransferase-1 is necessary for normal progression through mitosis in mammalian cells. J. Biol. Chem. 282: 30974-30984.
6. Longin, S., et al. 2008. Spatial control of protein phosphatase 2A (de) methylation. Exp. Cell Res. 314: 68-81.

CHROMOSOMAL LOCATION

Genetic locus: LCMT1 (human) mapping to 16p12.1.

SOURCE

LCMT1 (C-8) is a mouse monoclonal antibody raised against amino acids 179-334 mapping at the C-terminus of LCMT1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

LCMT1 (C-8) is recommended for detection of LCMT1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LCMT1 siRNA (h): sc-93344, LCMT1 shRNA Plasmid (h): sc-93344-SH and LCMT1 shRNA (h) Lentiviral Particles: sc-93344-V.

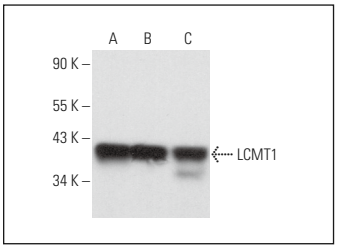
Molecular Weight of LCMT1: 38 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, HeLa whole cell lysate: sc-2200 or MCF7 whole cell lysate: sc-2206.

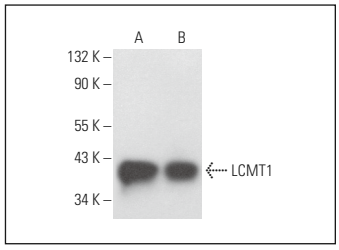
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



LCMT1 (C-8): sc-365064. Western blot analysis of LCMT1 expression in HEK293 (**A**), Hep G2 (**B**) and U-87 MG (**C**) whole cell lysates.



LCMT1 (C-8): sc-365064. Western blot analysis of LCMT1 expression in HeLa (**A**) and MCF7 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Elgenaidi, I.S. and Spiers, J.P. 2019. Hypoxia modulates the PP2A system in human cardiovascular cell lines: HIF-1α dependent and independent regulation of PP2A in aortic smooth muscle cells and ventricular cardiomyocytes. Br. J. Pharmacol. 176: 1745-1763.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.