

LCMT1 (D-10): sc-365221



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 PP2A α). 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

- 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.
- Lai, C.H., et al. 2000. Identification of novel human genes evolutionarily conserved in *Caenorhabditis elegans* by comparative proteomics. *Genome Res.* 10: 703-713.
- 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/>
- 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.
- Lee, J.A., et al. 2007. Leucine carboxyl methyltransferase-1 is necessary for normal progression through mitosis in mammalian cells. *J. Biol. Chem.* 282: 30974-30984.

CHROMOSOMAL LOCATION

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

SOURCE

LCMT1 (D-10) 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 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

LCMT1 (D-10) is available conjugated to agarose (sc-365221 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365221 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365221 PE), fluorescein (sc-365221 FITC), Alexa Fluor® 488 (sc-365221 AF488), Alexa Fluor® 546 (sc-365221 AF546), Alexa Fluor® 594 (sc-365221 AF594) or Alexa Fluor® 647 (sc-365221 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365221 AF680) or Alexa Fluor® 790 (sc-365221 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

LCMT1 (D-10) is recommended for detection of LCMT1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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.

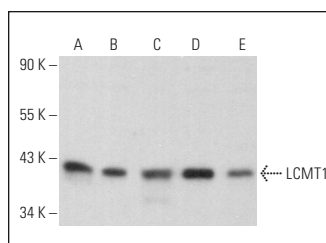
Molecular Weight of LCMT1: 38 kDa.

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

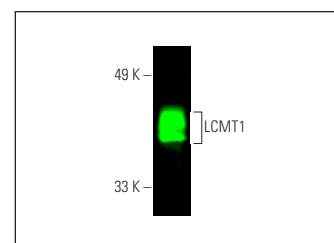
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 (D-10): sc-365221. Western blot analysis of LCMT1 expression in HEK293 (A), Hep G2 (B), U-87 MG (C), HeLa (D) and MCF7 (E) whole cell lysates.



LCMT1 (D-10): sc-365221. Near-Infrared western blot analysis of LCMT1 expression in MCF7 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG κ BP-CFL 680: sc-516180.

SELECT PRODUCT CITATIONS

- Zhang, N., et al. 2022. LCMT1 indicates poor prognosis and is essential for cell proliferation in hepatocellular carcinoma. *Transl. Oncol.* 27: 101572.

STORAGE

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

RESEARCH USE

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

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