

LCMT1 (4A4): sc-81609

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.

CHROMOSOMAL LOCATION

Genetic locus: *Lcmt1* (mouse) mapping to 7 F3.

SOURCE

LCMT1 (4A4) is a mouse monoclonal antibody raised against His-tagged recombinant LCMT1 of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG κ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

LCMT1 (4A4) is available conjugated to agarose (sc-81609 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-81609 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-81609 PE), fluorescein (sc-81609 FITC), Alexa Fluor[®] 488 (sc-81609 AF488), Alexa Fluor[®] 546 (sc-81609 AF546), Alexa Fluor[®] 594 (sc-81609 AF594) or Alexa Fluor[®] 647 (sc-81609 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-81609 AF680) or Alexa Fluor[®] 790 (sc-81609 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

RESEARCH USE

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

APPLICATIONS

LCMT1 (4A4) is recommended for detection of LCMT1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for LCMT1 siRNA (m): sc-108010, LCMT1 siRNA (r): sc-156141, LCMT1 shRNA Plasmid (m): sc-108010-SH, LCMT1 shRNA Plasmid (r): sc-156141-SH, LCMT1 shRNA (m) Lentiviral Particles: sc-108010-V and LCMT1 shRNA (r) Lentiviral Particles: sc-156141-V.

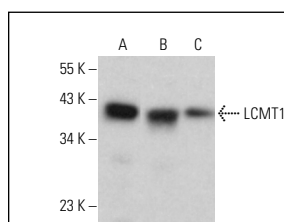
Molecular Weight of LCMT1: 38 kDa.

Positive Controls: Neuro-2A whole cell lysate: sc-364185, mouse brain extract: sc-2253 or C6 whole cell lysate: sc-364373.

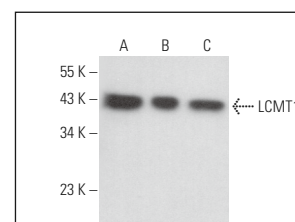
RECOMMENDED SUPPORT REAGENTS

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).

DATA



LCMT1 (4A4): sc-81609. Western blot analysis of LCMT1 expression in mouse brain (A) and mouse postnatal brain (B) tissue extracts and EOC 20 whole cell lysate (C).



LCMT1 (4A4): sc-81609. Western blot analysis of LCMT1 expression in C6 (A), Neuro-2A (B) and 3T3-L1 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Stanevich, V., et al. 2011. The structural basis for tight control of PP2A methylation and function by LCMT-1. *Mol. Cell* 41: 331-342.
2. Longman, M.R., et al. 2014. Regulation of PP2AC carboxylmethylation and cellular localisation by inhibitory class G-protein coupled receptors in cardiomyocytes. *PLoS ONE* 9: e86234.
3. Wang, Y., et al. 2015. Cross talk between PI3K-Akt-GSK-3 β and PP2A pathways determines Tau hyperphosphorylation. *Neurobiol. Aging* 36: 188-200.
4. Zhang, Z., et al. 2019. Pseudoginsenoside-F11 alleviates cognitive deficits and Alzheimer's disease-type pathologies in SAMP8 mice. *Pharmacol. Res.* 139: 512-523.
5. Pan, Y., et al. 2021. Vitamin D attenuates Alzheimer-like pathology induced by okadaic acid. *ACS Chem. Neurosci.* 12: 1343-1350.
6. Wu, Q., et al. 2021. Excess folic acid supplementation before and during pregnancy and lactation activates β -catenin in the brain of male mouse offspring. *Brain Res. Bull.* 178: 133-143.

STORAGE

Store at 4 $^{\circ}$ C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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