SANTA CRUZ BIOTECHNOLOGY, INC.

LMCD1 (C-3): sc-515172

BACKGROUND

LIM domain proteins are thought to be important regulators which function in cell differentiation and growth and are capable of interacting with structural proteins, kinases and transcriptional regulators. LIM domain proteins are also able to move between the nucleus and the cytoplasm. Structurally, LIM domains commonly contain cysteine-rich structures which possess two zinc fingers that are thought to be important for protein-protein interactions. LMCD1 (LIM and cysteine-rich domains 1), a 365 amino acid protein that is highly expressed in skeletal muscle, is a member of the family of LIM domain proteins and is also known as dyxin. LMCD1 has an N-terminal region that contains a cysteine-rich domain and a C-terminal region that contains two LIM domains. Via its LIM domains, LMCD1 is involved in interactions between DNA and proteins as well as between proteins which could be important for muscle development. In the nucleus, LMCD1 is thought to repress the ability of GATA-6 to bind to DNA by formation of a heterodimeric complex that is not functional. Upon translocation of LMCD1 to the cytoplasm, the LMCD1-GATA-6 complex dissociates, an event that enables GATA-6-dependent transcription of various genes expressed in heart and lung tissue to occur. The gene encoding LIMCD1 maps to a locus on human chromosome 3 that is associated with Marfan-like connective tissue disorder and Moyamoya disease, suggesting that LIMDC1 may be involved in the pathogenesis of these genetic disorders.

REFERENCES

1. Kiss, H., et al. 1999. A novel gene containing LIM domains (LIMD1) is located within the common eliminated region 1 (C3CER1) in 3p21.3. Hum. Genet. 105: 552-559.
2. Bespalova, I.N. and Burmeister, M. 2000. Identification of a novel LIM domain gene, LMCD1, and chromosomal localization in human and mouse. Genomics 63: 69-74.
3. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 604859. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Wang, J., et al. 2005. cDNA cloning, sequence analysis of the porcine LIM and cysteine-rich domain 1 gene. Acta Biochim. Biophys. Sin. 37: 843-850.
5. Rath, N., et al. 2005. LMCD1/Dyxin is a novel transcriptional cofactor that restricts GATA6 function by inhibiting DNA binding. Mol. Cell. Biol. 25: 8864-8873.

CHROMOSOMAL LOCATION

Genetic locus: LMCD1 (human) mapping to 3p26.1.

SOURCE

LMCD1 (C-3) is a mouse monoclonal antibody raised against amino acids 196-260 mapping within an internal region of LMCD1 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.

APPLICATIONS

LMCD1 (C-3) is recommended for detection of LMCD1 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 LMCD1 siRNA (h): sc-78291, LMCD1 shRNA Plasmid (h): sc-78291-SH and LMCD1 shRNA (h) Lentiviral Particles: sc-78291-V.

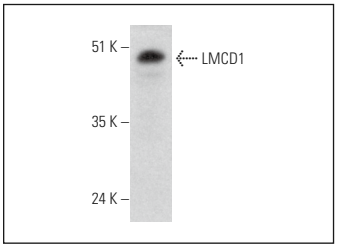
Molecular Weight of LMCD1: 40 kDa.

Positive Controls: human skeletal muscle extract: sc-363776.

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



LMCD1 (C-3): sc-515172. Western blot analysis of LMCD1 expression in human skeletal muscle tissue extract.

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.

PROTOCOLS

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