

LMO7 (B-7): sc-376807

BACKGROUND

The LIM-only (LMO) proteins are nuclear factors characterized by a conserved LIM domain. The LIM domain contains a cysteine-rich zinc-binding motif, present in a variety of transcription factors, including the LIM homeobox (LHX) proteins expressed in the central nervous system. The deduced LMO7 protein is comprised of 1,349 amino acid residues and contains a characteristic zinc finger domain and a 3'-UTR which possesses a short interspersed nucleotide element (SINE). RT-PCR detects predominant expression of LMO7 in heart, lung, skeletal muscle and kidney, moderate expression in liver, ovary, brain, pancreas and testis, and little or no expression in spleen. Research indicates that LMO7 is an afadin and α -actinin-binding protein that connects the nectin-afadin and E-cadherin-catenin systems through α -actinin.

REFERENCES

1. Putilina, T., et al. 1998. Analysis of a human cDNA containing a tissue-specific alternatively spliced LIM domain. *Biochem. Biophys. Res. Commun.* 252: 433-439.
2. Cenciarelli, C., et al. 1999. Identification of a family of human F-box proteins. *Curr. Biol.* 9: 1177-1179.
3. Nagase, T., et al. 1999. Prediction of the coding S sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. *DNA Res.* 5: 355-364.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604362. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: LMO7 (human) mapping to 13q22.2; Lmo7 (mouse) mapping to 14 E2.3.

SOURCE

LMO7 (B-7) is a mouse monoclonal antibody raised against amino acids 1321-1620 mapping near the C-terminus of LMO7 of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-376807 X, 200 μ g/0.1 ml.

LMO7 (B-7) is available conjugated to agarose (sc-376807 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376807 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376807 PE), fluorescein (sc-376807 FITC), Alexa Fluor® 488 (sc-376807 AF488), Alexa Fluor® 546 (sc-376807 AF546), Alexa Fluor® 594 (sc-376807 AF594) or Alexa Fluor® 647 (sc-376807 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376807 AF680) or Alexa Fluor® 790 (sc-376807 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

LMO7 (B-7) is recommended for detection of LMO7 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

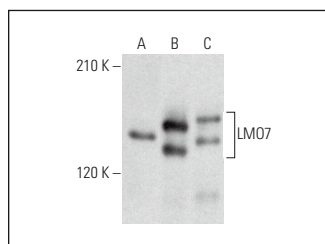
Suitable for use as control antibody for LMO7 siRNA (h): sc-60954, LMO7 siRNA (m): sc-60955, LMO7 shRNA Plasmid (h): sc-60954-SH, LMO7 shRNA Plasmid (m): sc-60955-SH, LMO7 shRNA (h) Lentiviral Particles: sc-60954-V and LMO7 shRNA (m) Lentiviral Particles: sc-60955-V.

LMO7 (B-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

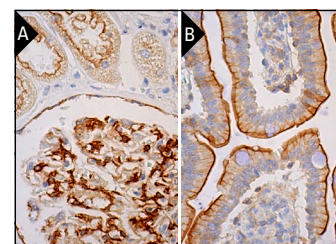
Molecular Weight of LMO7: 180 kDa.

Positive Controls: EOC 20 whole cell lysate: sc-364187, MDA-MB-231 cell lysate: sc-2232 or Sol8 cell lysate: sc-2249.

DATA



LMO7 (B-7): sc-376807. Western blot analysis of LMO7 expression in EOC 20 (A), MDA-MB-231 (B) and Sol8 (C) whole cell lysates.



LMO7 (B-7): sc-376807. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic and membrane staining of cells in glomeruli and cells in tubules (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic and membrane staining of glandular cells (B).

SELECT PRODUCT CITATIONS

1. Du, T.T., et al. 2019. LMO7 deficiency reveals the significance of the cuticular plate for hearing function. *Nat. Commun.* 10: 1117.
2. Guérin, A., et al. 2021. *Cryptosporidium* rhostry effector protein ROP1 injected during invasion targets the host cytoskeletal modulator LMO7. *Cell Host Microbe* 29: 1407-1420.e5.
3. He, X., et al. 2022. Cardiac CIP protein regulates dystrophic cardiomyopathy. *Mol. Ther.* 30: 898-914.
4. Zhu, G.J., et al. 2023. Cingulin regulates hair cell cuticular plate morphology and is required for hearing in human and mouse. *EMBO Mol. Med.* 15: e17611.

RESEARCH USE

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

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