

CLIM-2 (C-9): sc-365074

BACKGROUND

The LIM-only (LMO) proteins, LMO1 and LMO2, are nuclear factors that are characterized by a conserved LIM domain. The LIM domain consists of a cysteine-rich zinc-binding motif that is present in a variety of transcription factors, including the LIM homeobox (LHX) proteins expressed in the central nervous system and involved in cell differentiation. LMO1 and LMO2 are expressed in the adult CNS in a cell type-specific manner, where they are differentially regulated by neuronal activity and are involved in regulating the cellular differentiated phenotype of neurons. LMO2 lacks a specific DNA-binding homeobox domain but rather assembles into transcriptional regulatory complexes to mediate gene expression by interacting with the widely expressed nuclear LIM interactor (NLI). NLI, known also as CLIM-1, and the related protein CLIM-2, facilitate the formation of heteromeric LIM complexes and also enhance the nuclear retention of LIM proteins. LMO2 and the related protein LMO4 are expressed in thymic precursor cells. LMO4 is also expressed in mature T cells, cranial neural crest cells, somite, dorsal limb bud mesenchyme, motor neurons, and Schwann cell progenitors.

REFERENCES

- Hinks, G.L., et al. 1997. Expression of LIM protein genes LMO1, LMO2, and LMO3 in adult mouse hippocampus and other forebrain regions: differential regulation by seizure activity. *J. Neurosci.* 17: 5549-5559.
- Kenny, D.A., et al. 1998. Identification and characterization of LMO4, an LMO gene with a novel pattern of expression during embryogenesis. *Proc. Natl. Acad. Sci. USA* 95: 11257-11262.

CHROMOSOMAL LOCATION

Genetic locus: LDB1 (human) mapping to 10q24.32; Ldb1 (mouse) mapping to 19 C3.

SOURCE

CLIM-2 (C-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 3-27 at the N-terminus of CLIM-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} 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-365074 X, 200 µg/0.1 ml.

CLIM-2 (C-9) is available conjugated to agarose (sc-365074 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365074 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365074 PE), fluorescein (sc-365074 FITC), Alexa Fluor® 488 (sc-365074 AF488), Alexa Fluor® 546 (sc-365074 AF546), Alexa Fluor® 594 (sc-365074 AF594) or Alexa Fluor® 647 (sc-365074 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365074 AF680) or Alexa Fluor® 790 (sc-365074 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365074 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

CLIM-2 (C-9) is recommended for detection of CLIM-2 of mouse, rat and 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).

CLIM-2 (C-9) is also recommended for detection of CLIM-2 in additional species, including equine, canine, porcine and avian.

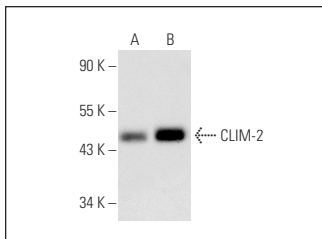
Suitable for use as control antibody for CLIM-2 siRNA (h): sc-35072, CLIM-2 siRNA (m): sc-35073, CLIM-2 shRNA Plasmid (h): sc-35072-SH, CLIM-2 shRNA Plasmid (m): sc-35073-SH, CLIM-2 shRNA (h) Lentiviral Particles: sc-35072-V and CLIM-2 shRNA (m) Lentiviral Particles: sc-35073-V.

CLIM-2 (C-9) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

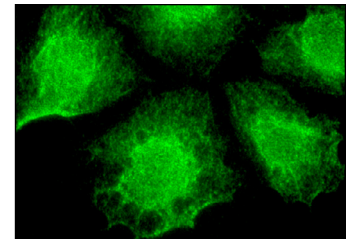
Molecular Weight of CLIM-2: 46 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, CCRF-CEM cell lysate: sc-2225 or IMR-32 cell lysate: sc-2409.

DATA



CLIM-2 (C-9): sc-365074. Western blot analysis of CLIM-2 expression in CCRF-CEM (A) and IMR-32 (B) whole cell lysates.



CLIM-2 (C-9): sc-365074. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Caputo, L., et al. 2015. The Isl1/Ldb1 complex orchestrates genome-wide chromatin organization to instruct differentiation of multipotent cardiac progenitors. *Cell Stem Cell* 17: 287-299.
- Vermunt, M.W., et al. 2023. Gene silencing dynamics are modulated by transiently active regulatory elements. *Mol. Cell* 83: 715-730.e6.

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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