

# CLIM-1 (Q7): sc-101088

## 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.
- Grutz, G., et al. 1998. Identification of the LMO4 gene encoding an interaction partner of the LIM-binding protein LDB1/NLI1: a candidate for displacement by LMO proteins in T cell acute leukaemia. *Oncogene* 17: 2799-2803.
- Valge-Archer, V., et al. 1998. The LMO1 and LDB1 proteins interact in human T cell acute leukaemia with the chromosomal translocation t(11;14)(p15;q11). *Oncogene* 17: 3199-3202.
- Semina, E.V., et al. 1998. Cloning and chromosomal localization of two novel human genes encoding LIM-domain binding factors CLIM1 and CLIM2/LDB1/NLI. *Mamm. Genome* 9: 921-924.
- 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.
- Tse, E., et al. 1999. Characterization of the LMO4 gene encoding a LIM-only protein: genomic organization and comparative chromosomal mapping. *Mamm. Genome* 10: 1089-1094.

## CHROMOSOMAL LOCATION

Genetic locus: LDB2 (human) mapping to 4p15.32; Ldb2 (mouse) mapping to 5 B3.

## SOURCE

CLIM-1 (Q7) is a mouse monoclonal antibody raised against recombinant CLIM-1 of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

CLIM-1 (Q7) is recommended for detection of CLIM-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 CLIM-1 siRNA (h): sc-38023, CLIM-1 siRNA (m): sc-38024, CLIM-1 shRNA Plasmid (h): sc-38023-SH, CLIM-1 shRNA Plasmid (m): sc-38024-SH, CLIM-1 shRNA (h) Lentiviral Particles: sc-38023-V and CLIM-1 shRNA (m) Lentiviral Particles: sc-38024-V.

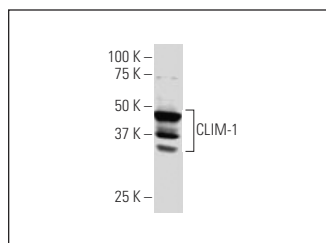
Molecular Weight of CLIM-1: 36 kDa.

Positive Controls: CCRF-CEM nuclear extract: sc-2146 or HeLa whole cell lysate: sc-2200.

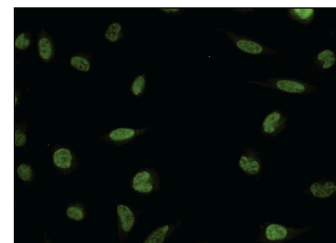
## RECOMMENDED SUPPORT REAGENTS

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



CLIM-1 (Q7): sc-101088. Western blot analysis of CLIM-1 expression in HeLa whole cell lysate.



CLIM-1 (Q7): sc-101088. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear localization.

## SELECT PRODUCT CITATIONS

- Yu, H., et al. 2017. LDB2 inhibits proliferation and migration in liver cancer cells by abrogating HEY1 expression. *Oncotarget* 8: 94440-94449.

## 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.