

CLIM-2 (m): 293T Lysate: sc-119307

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

1. Hinks, G.L., Shah, B., French, S.J., Campos, L.S., Staley, K., Hughes, J. and Sofroniew, M.V. 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.
2. Grutz, G., Forster, A. and Rabbitts, T.H. 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.
3. Valge-Archer, V., Forster, A. and Rabbitts, T.H. 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.
4. Kenny, D.A., Jurata, L.W., Saga, Y. and Gill, G.N. 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.
5. Semina, E.V., Altherr, M.R. and Murray, J.C. 1998. Cloning and chromosomal localization of two novel human genes encoding LIM-domain binding factors CLIM-1 and CLIM-2/LDB1/NLI. *Mamm. Genome* 9: 921-924.
6. Tse, E., Grutz, G., Garner, A.A., Ramsey, Y., Carter, N.P., Copeland, N., Gilbert, D.J., Jenkins, N.A., Agulnick, A., Forster, A. and Rabbitts, T.H. 1999. Characterization of the LMO4 gene encoding a LIM-only protein: genomic organization and comparative chromosomal mapping. *Mamm. Genome* 10: 1089-1094.
7. Chervinsky, D.S., Zhao, X.F., Lam, D.H., Ellsworth, M., Gross, K.W. and Aplan, P.D. 1999. Disordered T-cell development and T-cell malignancies in SCL LMO1 double-transgenic mice: parallels with E2A-deficient mice. *Mol. Cell. Biol.* 19: 5025-5035.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

Genetic locus: Ldb1 (mouse) mapping to 19 C3.

PRODUCT

CLIM-2 (m): 293T Lysate represents a lysate of mouse CLIM-2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

CLIM-2 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive CLIM-2 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

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.