

LMO4 (h): 293T Lysate: sc-173453

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

- Boehm, T., Foroni, L., Kaneko, Y., Perutz, M.F. and Rabbitts, T.H. 1991. The rhombotin family of cysteine-rich LIM-domain oncogenes: distinct members are involved in T-cell translocations to human chromosomes 11p15 and 11p13. *Proc. Natl. Acad. Sci. USA* 88: 4367-4371.
- Agulnick, A.D., Taira, M., Breen, J.J., Tanaka, T., Dawid, I.B. and Westphal, H. 1996. Interactions of the LIM-domain-binding factor Ldb1 with LIM homeodomain proteins. *Nature* 384: 270-272.
- 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.
- Rabbitts, T.H., Axelson, H., Forster, A., Grutz, G., Lavenir, I., Larson, R., Osada, H., Valge-Archer, V., Wadman, I. and Warren, A. 1997. Chromosomal translocations and leukaemia: a role for LMO2 in T cell acute leukaemia, in transcription and in erythropoiesis. *Leukemia* 3: 271-272.
- Osada, H., Grutz, G.G., Axelson, H., Forster, A. and Rabbitts, T.H. 1997. LIM-only protein LMO2 forms a protein complex with erythroid transcription factor GATA-1. *Leukemia* 3: 307-312.
- Jurata, L.W., Pfaff, S.L. and Gill, G.N. 1998. The nuclear LIM domain interactor NLI mediates homo- and heterodimerization of LIM domain transcription factors. *J. Biol. Chem.* 273: 3152-3157.
- 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.
- 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 CLIM1 and CLIM2/LDB1/NLI. *Mamm. Genome* 9: 921-924.

CHROMOSOMAL LOCATION

Genetic locus: LMO4 (human) mapping to 1p22.3.

PRODUCT

LMO4 (h): 293T Lysate represents a lysate of human LMO4 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

LMO4 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive LMO4 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.

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.

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.