SANTA CRUZ BIOTECHNOLOGY, INC.

LMO2 (1A9-1): sc-65736

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: LMO2 (human) mapping to 11p13; Lmo2 (mouse) mapping to 2 E2.

SOURCE

LMO2 (1A9-1) is a mouse monoclonal antibody raised against recombinant LMO2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

LMO2 (1A9-1) is available conjugated to agarose (sc-65736 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-65736 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-65736 PE), fluorescein (sc-65736 FITC), Alexa Fluor® 488 (sc-65736 AF488), Alexa Fluor® 546 (sc-65736 AF546), Alexa Fluor® 594 (sc-65736 AF594) or Alexa Fluor® 647 (sc-65736 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-65736 AF680) or Alexa Fluor® 790 (sc-65736 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

LMO2 (1A9-1) is recommended for detection of LMO2 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

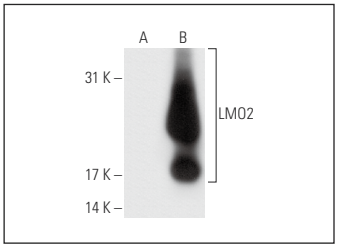
Suitable for use as control antibody for LMO2 siRNA (h): sc-38027, LMO2 siRNA (m): sc-38028, LMO2 shRNA Plasmid (h): sc-38027-SH, LMO2 shRNA Plasmid (m): sc-38028-SH, LMO2 shRNA (h) Lentiviral Particles: sc-38027-V and LMO2 shRNA (m) Lentiviral Particles: sc-38028-V.

Molecular Weight of LMO2: 24 kDa.

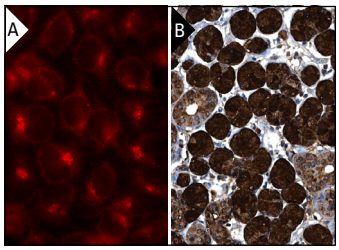
STORAGE

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

DATA



LMO2 (1A9-1): sc-65736. Western blot analysis of LMO2 expression in non-transfected: sc-117752 (**A**) and human LMO2 transfected: sc-172489 (**B**) 293T whole cell lysates.



LMO2 (1A9-1): sc-65736. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human salivary gland tissue showing cytoplasmic staining of glandular cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Zhang, J., et al. 2009. Patterns of microRNA expression characterize stages of human B cell differentiation. Blood 113: 4586-4594.
2. Cobanoglu, U., et al. 2010. The expression of LMO2 protein in acute B-cell and myeloid leukemia. Hematology 15: 132-134.
3. Li, D., et al. 2012. Primary breast diffuse large B-cell lymphoma shows an activated B-cell-like phenotype. Ann. Diagn. Pathol. 16: 335-343.
4. Chen, B.B., et al. 2013. Prognostic value of clinical characteristics and immunophenotypic biomarkers in 115 patients with primary central nervous system lymphoma. Chin. Med. J. 126: 482-487.
5. Sissolak, G., et al. 2013. Tissue microarray in a subset of South African patients with DLBCL. Transfus. Apher. Sci. 49: 120-132.
6. Lu, T.X., et al. 2015. Epstein-Barr virus positive diffuse large B-cell lymphoma predict poor outcome, regardless of the age. Sci. Rep. 5: 12168.
7. Li, X., et al. 2017. Primary central nervous system diffuse large B-cell lymphoma shows an activated B-cell-like phenotype with co-expression of C-MYC, Bcl-2, and Bcl-6. Pathol. Res. Pract. 213: 659-665.
8. Villa, D., et al. 2019. Molecular features of a large cohort of primary central nervous system lymphoma using tissue microarray. Blood Adv. 3: 3953-3961.
9. Marchetti, L., et al. 2022. ACKR1 favors transcellular over paracellular T-cell diapedesis across the blood-brain barrier in neuroinflammation *in vitro*. Eur. J. Immunol. 52: 161-177.

RESEARCH USE

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