SANTA CRUZ BIOTECHNOLOGY, INC.

LOXL3 (E-6): sc-377216

The Power to Question

BACKGROUND

Lysyl oxidase (LOX) proteins belong to a family of enzymes that oxidize primary amine substrated to reactive aldehydes. In fibrillar collagens and elastin, LOX catalyzes the lysine-derived cross-links of collagen fibrils and insoluble elastic fibers in the extracellular matrix. It can localize both to the nucleus and the cytoplasm. LOX is involved in tumor suppression, cell motility, cellular senescence and developmental regulation. There are four homologs of LOX, lysyl oxidase-like proteins, designated LOX-like (LOXL1-LOXL4) proteins. LOXL3 is an extracellular protein that localizes specifically to sites of elastogenesis. LOXL2 and LOXL3 can interact and cooperate with the Snail protein to downregulate E-cadherin expression. In epithelial cells, overexpression of LOXL2 or LOXL3 may induce an epithelial-mesenchymal transitions process, an important element in tumor progression. LOXL3 is a widely expressed protein with highest levels of expression in placenta, small intestine, testis, heart, ovary and spleen.

REFERENCES

1. Jourdan-Le Saux, C., et al. 1999. The LOXL2 gene encodes a new lysyl oxidase-like protein and is expressed at high levels in reproductive tissues. J. Biol. Chem. 274: 12939-12944.
2. Huang, Y., et al. 2001. Cloning and characterization of a human lysyl oxidase-like 3 gene (hLOXL3). Matrix Biol. 20: 153-157.

CHROMOSOMAL LOCATION

Genetic locus: LOXL3 (human) mapping to 2p13.1; Loxl3 (mouse) mapping to 6 C3.

SOURCE

LOXL3 (E-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 137-175 within an internal region of LOXL3 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.

LOXL3 (E-6) is available conjugated to agarose (sc-377216 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377216 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377216 PE), fluorescein (sc-377216 FITC), Alexa Fluor® 488 (sc-377216 AF488), Alexa Fluor® 546 (sc-377216 AF546), Alexa Fluor® 594 (sc-377216 AF594) or Alexa Fluor® 647 (sc-377216 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377216 AF680) or Alexa Fluor® 790 (sc-377216 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377216 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

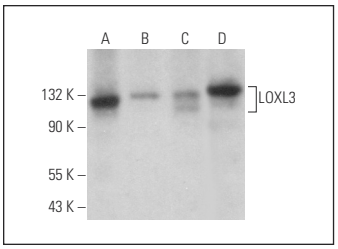
LOXL3 (E-6) is recommended for detection of LOXL3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LOXL3 siRNA (h): sc-45224, LOXL3 siRNA (m): sc-45225, LOXL3 shRNA Plasmid (h): sc-45224-SH, LOXL3 shRNA Plasmid (m): sc-45225-SH, LOXL3 shRNA (h) Lentiviral Particles: sc-45224-V and LOXL3 shRNA (m) Lentiviral Particles: sc-45225-V.

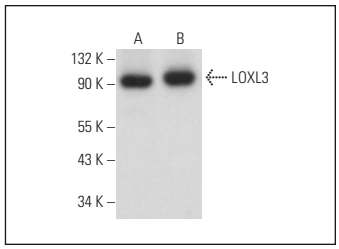
Molecular Weight of LOXL3: 83 kDa.

Positive Controls: A-10 cell lysate: sc-3806, U-251-MG whole cell lysate: sc-364176 or NIH/3T3 whole cell lysate: sc-2210.

DATA



LOXL3 (E-6): sc-377216. Western blot analysis of LOXL3 expression in U-251-MG (**A**), NIH/3T3 (**B**), C3H/10T1/2 (**C**) and A-10 (**D**) whole cell lysates.



LOXL3 (E-6): sc-377216. Western blot analysis of LOXL3 expression in A-10 (**A**) and Sol8 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kraft-Sheleg, O., et al. 2016. Localized LOXL3-dependent Fibronectin oxidation regulates myofiber stretch and integrin-mediated adhesion. Dev. Cell 36: 550-561.
2. Vardaki, I., et al. 2016. Periostin is identified as a putative metastatic marker in breast cancer-derived exosomes. Oncotarget 7: 74966-74978.
3. Li, H., et al. 2020. Quantitative proteomics reveals the beneficial effects of low glucose on neuronal cell survival in an *in vitro* ischemic penumbral model. Front. Cell. Neurosci. 14: 272.
4. Yi, X., et al. 2021. The expression patterns and roles of lysyl oxidases in aortic dissection. Front. Cardiovasc. Med. 8: 692856.
5. Bright, F., et al. 2021. Glycoprotein pathways altered in frontotemporal dementia with autoimmune disease. Front. Immunol. 12: 736260.
6. Zheng, L., et al. 2022. Pathological changes and expression of lysine oxidases and matrix metalloproteinases-1, -2, and -3 in ligaments of patients with haemophilic arthritis. Haemophilia 28: 145-150.
7. Shi, H.Z., et al. 2022. N^6-methyladenosine reader YTHDF3 regulates melanoma metastasis via its "executor" LOXL3. Clin. Transl. Med. 12: e1075.

RESEARCH USE

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