SANTA CRUZ BIOTECHNOLOGY, INC.

LOXL2 (3C5): sc-293427

SANTA CRUZ BIOTECHNOLOGY

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. LOXL2 is an extracellular protein that localizes specifically to sites of elastogenesis. It serves as a cross-linking enzyme, controlling the deposition of elastin and interacts with fibulin-5. 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. Knockdown of the LOXL2 protein significantly decreases tumor growth.

REFERENCES

1. Jourdan-Le Saux, C., et al. 1999. The LOXL2 gene encodes a new LOXL protein and is expressed at high levels in reproductive tissues. J. Biol. Chem. 274: 12939-12944.
2. Csiszar, K., et al. 2001. LOX: a novel multifunctional amine oxidase family. Prog. Nucleic Acid Res. Mol. Biol. 701-732.
3. Kirschmann, D.A., et al. 2002. A molecular role for LOX in breast cancer invasion. Cancer Res. 62: 4478-4483.
4. Molnar, J., et al. 2003. Structural and functional diversity of LOX and the LOX-like proteins. Biochim. Biophys. Acta 1647: 220-224.
5. Peinado, H., et al. 2005. A molecular role for LOXL2 enzyme in snail regulation and tumor progression. EMBO J. 24: 3446-3458.
6. Vadasz, Z., et al. 2005. Abnormal deposition of collagen around hepatocytes in Wilson's disease is associated with hepatocyte specific expression of LOX and LOXL2. J. Hepatol. 43: 499-507.
7. Atsawasuwan, P., et al. 2005. Expression of LOX isoforms in MC3T3-E1 osteoblastic cells. Biochem. Biophys. Res. Commun. 327: 1042-1046.

CHROMOSOMAL LOCATION

Genetic locus: LOXL2 (human) mapping to 8p21.3; Loxl2 (mouse) mapping to 14 D2.

SOURCE

LOXL2 (3C5) is a mouse monoclonal antibody raised against amino acids 675-773 representing partial length LOXL2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

LOXL2 (3C5) is recommended for detection of LOXL2 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

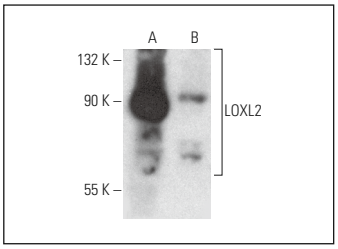
Suitable for use as control antibody for LOXL2 siRNA (h): sc-45222, LOXL2 siRNA (m): sc-45223, LOXL2 siRNA (r): sc-270399, LOXL2 shRNA Plasmid (h): sc-45222-SH, LOXL2 shRNA Plasmid (m): sc-45223-SH, LOXL2 shRNA Plasmid (r): sc-270399-SH, LOXL2 shRNA (h) Lentiviral Particles: sc-45222-V, LOXL2 shRNA (m) Lentiviral Particles: sc-45223-V and LOXL2 shRNA (r) Lentiviral Particles: sc-270399-V.

Molecular Weight of LOXL2: 95 kDa.

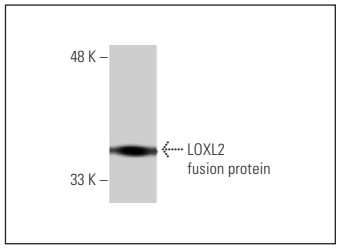
Molecular Weight of LOXL2 proteolytically processed peptide: 63 kDa.

Positive Controls: SK-MEL-24 whole cell lysate: sc-364259 or NIH/3T3 whole cell lysate: sc-2210.

DATA



LOXL2 (3C5): sc-293427. Western blot analysis of LOXL2 expression in SK-MEL-24 (**A**) and NIH/3T3 (**B**) whole cell lysates.



LOXL2 (3C5): sc-293427. Western blot analysis of human recombinant LOXL2 fusion protein.

SELECT PRODUCT CITATIONS

1. Luo, J., et al. 2022. LOXL2 silencing suppresses angiotensin II-induced cardiac hypertrophy through the EMT process and TGF-β1/Smad3/NFκB pathway. Iran. J. Basic Med. Sci. 25: 964-969.
2. Vitaliti, A., et al. 2023. AKT-driven epithelial-mesenchymal transition is affected by copper bioavailability in HER2 negative breast cancer cells via a LOXL2-independent mechanism. Cell. Oncol. 46: 93-115.
3. Wu, Y., et al. 2023. Irisin attenuates angiotensin II-induced atrial fibrillation and atrial fibrosis via LOXL2 and TGFβ1/Smad2/3 signaling pathways. Iran. J. Basic Med. Sci. 26: 717-724.
4. Kamiya, T., et al. 2023. Inhibition of N-glycosylation by glucosamine hydrochloride inhibits TGF-β1-induced LOXL2 secretion. J. Cell. Biochem. 124: 797-807.

RESEARCH USE

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