SANTA CRUZ BIOTECHNOLOGY, INC.

LOXL2 (N-15): sc-48724

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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.

CHROMOSOMAL LOCATION

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

SOURCE

LOXL2 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of LOXL2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-48724 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

LOXL2 (N-15) 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), 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).

LOXL2 (N-15) is also recommended for detection of LOXL2 in additional species, including equine and canine.

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.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Lelièvre, E., et al. 2008. VE-statin/egfl7 regulates vascular elastogenesis by interacting with lysyl oxidases. EMBO J. 27: 1658-1670.
2. Barker, H.E., et al. 2011. LOXL2-mediated matrix remodeling in metastasis and mammary gland involution. Cancer Res. 71: 1561-1572.
3. Xie, J., et al. 2013. Differential expressions of lysyl oxidase family in ACL and MCL fibroblasts after mechanical injury. Injury 44: 893-900.
4. Xie, J., et al. 2013. TNF-α induced down-regulation of lysyl oxidase family in anterior cruciate ligament and medial collateral ligament fibroblasts. Knee. E-published.

RESEARCH USE

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