

LOXL3 (A-2): sc-365286

BACKGROUND

Lysyl oxidase (LOX) proteins belong to a family of enzymes that oxidize primary amine substrates 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 down-regulate 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.
3. Jourdan-Le Saux, C., et al. 2001. Central nervous system, uterus, heart, and leukocyte expression of the LOXL3 gene, encoding a novel lysyl oxidase-like protein. *Genomics* 74: 211-218.
4. Maki, J.M., et al. 2001. Cloning and characterization of a fourth human lysyl oxidase isoenzyme. *Biochem. J.* 355: 381-387.
5. Molnar, J., et al. 2003. Structural and functional diversity of lysyl oxidase and the LOX-like proteins. *Biochim. Biophys. Acta* 1647: 220-224.
6. Bronson, N.W., et al. 2005. LOXL null mice demonstrate selective dentate structural changes but maintain dentate granule cell and CA1 pyramidal cell potentiation in the hippocampus. *Neurosci. Lett.* 390: 118-122.

CHROMOSOMAL LOCATION

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

SOURCE

LOXL3 (A-2) is a mouse monoclonal antibody raised against amino acids 111-180 mapping near the N-terminus of LOXL3 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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

LOXL3 (A-2) 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), immunohistochemistry (including paraffin-embedded sections) (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.

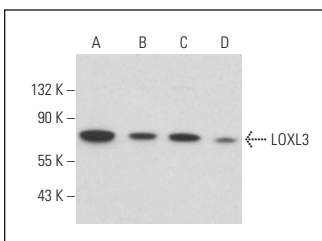
Molecular Weight of LOXL3: 83 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, JAR cell lysate: sc-2276 or MIA PaCa-2 cell lysate: sc-2285.

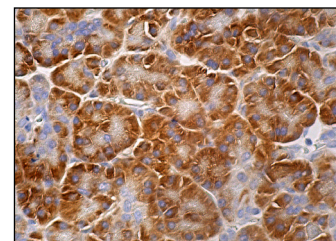
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



LOXL3 (A-2): sc-365286. Western blot analysis of LOXL3 expression in A-431 (A), MIA PaCa-2 (B), JAR (C) and NIH/3T3 (D) whole cell lysates.



LOXL3 (A-2): sc-365286. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Kasashima, H., et al. 2018. Significance of the lysyl oxidase members lysyl oxidase like 1, 3, and 4 in gastric cancer. *Digestion* 98: 238-248.
2. Cui, Y., et al. 2021. Berberine regulates bone metabolism in apical periodontitis by remodelling the extracellular matrix. *Oral Dis.* E-published.

RESEARCH USE

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