SANTA CRUZ BIOTECHNOLOGY, INC.

LOX (M-140): sc-66948

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The lysyl oxidase family of extracellular proteins includes LOX and four LOX-like enzymes, which are responsible for the deamination of peptidyl lysine residues of collagens and elastin. They also catalyze inter- and intra-crosslinking reactions. Overexpression of LOX may cause severe fibrotic degeneration due to its high resistance to degradative enzymes. Procollagen C-proteinase activity processes LOX from a precursor protein to a mature form. Activation of LOX occurs in normal developing and adult skin, and alterations in LOX expression and activity are associated with skin aging and senescence. LOX is crucial for development of the cardiovascular and respiratory systems. In addition, LOX plays a role in cancer, wound healing, as well as cell motility, chemotaxis and differentiation.

REFERENCES

1. Uzel, M.I., et al. 2001. Multiple bone morphogenetic protein 1-related mammalian metalloproteinases process pro-lysyl oxidase at the correct physiological site and control lysyl oxidase activation in mouse embryo fibroblast cultures. J. Biol. Chem. 276: 22537-22543.
2. Palamakumbura, A.H., et al. 2004. The propeptide domain of lysyl oxidase induces phenotypic reversion of Ras-transformed cells. J. Biol. Chem. 279: 40593-40600.
3. Maki, J.M., et al. 2005. Lysyl oxidase is essential for normal development and function of the respiratory system and for the integrity of elastic and collagen fibers in various tissues. Am. J. Pathol. 167: 927-936.

CHROMOSOMAL LOCATION

Genetic locus: Lox (mouse) mapping to 18 D1.

SOURCE

LOX (M-140) is a rabbit polyclonal antibody raised against amino acids 66-205 mapping within an internal region of LOX of mouse origin.

PRODUCT

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

APPLICATIONS

LOX (M-140) is recommended for detection of Lysyl oxidase of mouse and rat 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LOX siRNA (m): sc-45219, LOX shRNA Plasmid (m): sc-45219-SH and LOX shRNA (m) Lentiviral Particles: sc-45219-V.

Molecular Weight of LOX proenzyme: 50 kDa.

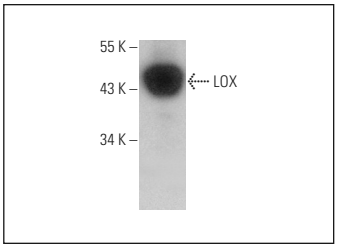
Molecular Weight of mature LOX: 30 kDa.

Positive Controls: C3H/10T1/2 cell lysate: sc-3801.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



LOX (M-140): sc-66948. Western blot analysis of LOX expression in C3H/10T/1/2 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Thaler, R., et al. 2010. Homocysteine suppresses the expression of the collagen cross-linker lysyl oxidase involving IL-6, Fli1 and epigenetic DNA-methylation. J. Biol. Chem. 286: 5578-5588.
2. Peng, C., et al. 2012. Vps18 deficiency inhibits dendritogenesis in Purkinje cells by blocking the lysosomal degradation of Lysyl oxidase. Biochem. Biophys. Res. Commun. 423: 715-720.
3. Chen, J.Y., et al. 2013. Increased aortic stiffness and attenuated lysyl oxidase activity in obesity. Arterioscler. Thromb. Vasc. Biol. 33: 839-846.

STORAGE

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

RESEARCH USE

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