SANTA CRUZ BIOTECHNOLOGY, INC.

LOX (E-19): sc-32410

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: 9279-36.
4. Goto, Y., et al. 2005. Transforming growth factor β-1-mediated upregu-lation of lysyl oxidase in the kidneys of hereditary nephrotic mouse with chronic renal fibrosis. Virchows Arch. 447: 859-868.
5. Szauter, K.M., et al. 2005. Lysyl oxidase in development, aging and pathologies of the skin. Pathol. Biol. 53: 448-456.

CHROMOSOMAL LOCATION

Genetic locus: LOX (human) mapping to 5q23.2; Lox (mouse) mapping to 18 D1.

SOURCE

LOX (E-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of LOX 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-32410 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.

RESEARCH USE

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

APPLICATIONS

LOX (E-19) is recommended for detection of Lysyl oxidase (LOX) 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).

LOX (E-19) is also recommended for detection of Lysyl oxidase (LOX) in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for LOX siRNA (h): sc-45218, LOX siRNA (m): sc-45219, LOX shRNA Plasmid (h): sc-45218-SH, LOX shRNA Plasmid (m): sc-45219-SH, LOX shRNA (h) Lentiviral Particles: sc-45218-V 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: JAR cell lysate: sc-2276, JEG-3 whole cell lysate: sc-364255 or WI 38 whole cell lysate: sc-364260.

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. Papachroni, K.K., et al. 2010. Lysyl oxidase interacts with AGE signalling to modulate collagen synthesis in polycystic ovarian tissue. J. Cell. Mol. Med. 14: 2460-2469.
2. Xie, J., et al. 2013. Differential expressions of lysyl oxidase family in ACL and MCL fibroblasts after mechanical injury. Injury 44: 893-900.
3. 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.