SANTA CRUZ BIOTECHNOLOGY, INC.

LOX (B-11): sc-514757

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.
4. Goto, Y., et al. 2005. Transforming growth factor β-1-mediated upregulation 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.
6. Fogelgren, B., et al. 2005. Cellular Fibronectin binds to lysyl oxidase with high affinity and is critical for its proteolytic activation. J. Biol. Chem. 280: 24690-24697.
7. Chen, L.J., et al. 2005. Downregulation of lysyl oxidase and upregulation of cellular thiols in rat fetal lung fibroblasts treated with cigarette smoke condensate. Toxicol. Sci. 83: 372-379.

CHROMOSOMAL LOCATION

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

SOURCE

LOX (B-11) is a mouse monoclonal antibody raised against amino acids 66-205 mapping within an internal region of LOX of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

LOX (B-11) is recommended for detection of LOX of mouse 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) 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.

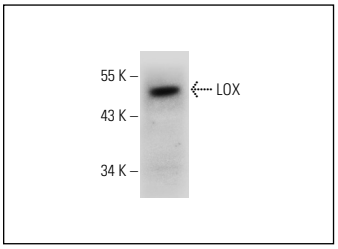
Molecular Weight of mature LOX: 30 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

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.

DATA



LOX (B-11): sc-514757. Western blot analysis of LOX expression in NIH/3T3 whole cell lysate.

STORAGE

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

PROTOCOLS

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

CONJUGATES

See **LOX (F-8): sc-373995** for LOX antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.