



**LD Biopharma, Inc.**  
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<http://www.ldbiopharma.com>

## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human LOXL1 Protein  
**Catalog Number:** hRP-1852  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human lysyl oxidase homolog 1 (LOXL1) gene encodes a member of the lysyl oxidase family of proteins. The prototypic member of the family is essential to the biogenesis of connective tissue, encoding an extracellular copper-dependent amine oxidase that catalyzes the first step in the formation of crosslinks in collagen and elastin. The encoded preproprotein is proteolytically processed to generate the mature enzyme. A highly conserved amino acid sequence at the C-terminus end appears to be sufficient for amine oxidase activity, suggesting that each family member may retain this function. The N-terminus is poorly conserved and may impart additional roles in developmental regulation, senescence, tumor suppression, cell growth control, and chemotaxis to each member of the family. Mutations in this gene are associated with exfoliation syndrome. Recent data indicated that anti-LOXL1 antibody mediated nanoparticles might target tumor site specifically as LOXL1 plays a role for elevated tumor ECM production.

Full-length mature protein of human LOXL1 cDNA ( 95 - 573 aa, derived from BC068542 ) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein was expressed in *E. coli* as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

**Gene Symbol:** LOXL1 (LOL; LOXL)  
**Accession Number:** NP\_005567  
**Species:** Human  
**Size:** 20 µg / Vial  
**Composition:** 0.2 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.  
**Storage:** In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

### Key References



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Mathumai Kanapathipillai, et al., *Inhibition of mammary tumor growth using lysyl oxidase targeting nanoparticles to modify extracellular matrix*. Nano lett.12, 3213-3217 (2012)

Ye H, et al., *LOXL1 Hypermethylation in Pseudoexfoliation Syndrome in the Uighur Population*. Invest. Ophthalmol. Vis. Sci. 56 (10), 5838-5843 (2015)

Takeshi Nishioka, et al., *Lysyl Oxidase: From basic science to future cancer treatment*. Cell Structure & Function. 37: 75-80 (2012)

Wiggs JL et al., *Expression and regulation of LOXL1 and elastin-related genes in eyes with exfoliation syndrome*. J. Glaucoma 23 (8 SUPPL 1), S62-S63 (2014)

## **Applications**

1. May be used for in vitro LOXL1 mediated tumor microenvironment ECM pathway regulation study for cancel cell with this protein either as soluble factor or as coating matrix protein.
2. May be used for protein-protein interaction mapping.
3. As Enzymatic substrate for various proteases.
4. Potential biomarker protein as IHC analysis of LOXL1 in various cancer patient samples for prediction of patient survival rate in various treatments.
5. As immunogen for specific antibody production.

## **Quality Control**

Purity: > 90% by SDS-PAGE.

## **Recombinant Protein Sequence**

MASMTGGQQMGRGHHHHHGNLYFQGGEFRQAPSLPLPGRVGS DTVRGQARHPFGFGQVPDNWR  
EVAVGDSTGMARARTSVSQQRHGGSSASSVSASAFASTYRQQPSYPQQFPYPQAPFVSQYENYDP  
ASRTYDQGFVYYRPAGGGV GAGAAVASAGVIYPYQPRARYEEYGGGEELPEYPPQGFYPAPER  
PYVPPPPPPDGLDRRYSHSLYSEGTPGFEQAYPDGP EAAQAHGGDPRLGWYPPYANPPPEAY  
GPPRALEPPYLPVRSSDTPPPGGERNGAQQGRLSVGSVYRPNQNGRGLPDLVDPDNYVQASTYV  
QRAHLYSLRCAAEEKCLASTAYAPEATDYDVRVLLRFPQRVKNQGTADFLPNRPRHTWEWHSCH  
QHYHSMDEF SHYDLLDAATGKKVAEGHKASF CLEDSTCDFGNL KRYACTSHTQGLSPGCYDTYN  
ADIDCQWIDITDVQPGNYILKVHV NPKYIVLESDF TNNVRCNIHYTGRYVSATNCKIVQS