Product Datasheet

LOX propeptide Antibody - BSA Free
NB110-41568

Unit Size: 0.1 ml

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

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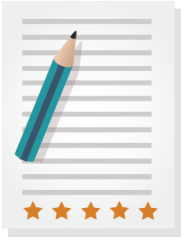


NB110-41568

LOX propeptide Antibody - BSA Free

Product Information

Unit Size	0.1 ml
Concentration	1 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.05% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS

Product Description

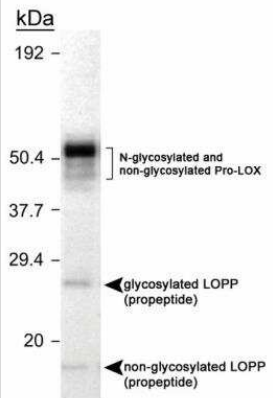
Host	Rabbit
Gene ID	4015
Gene Symbol	LOX
Species	Human, Mouse, Rat, Porcine
Specificity/Sensitivity	This antibody specifically recognizes both the pro-enzyme and pro-peptide forms of LOX protein in mouse and rat.
Immunogen	A synthetic peptide made to an internal region of mouse LOX propeptide (residues 78-115). [UniProt# P28301]

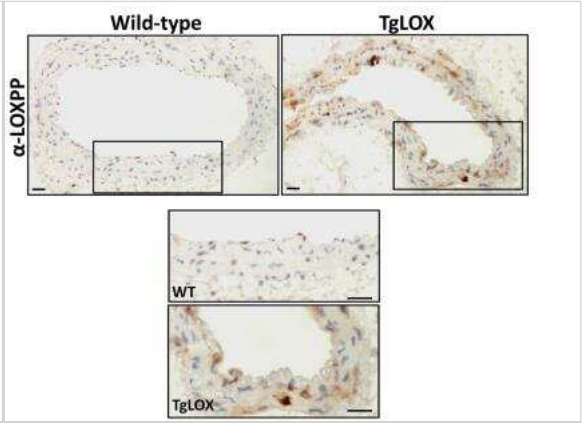
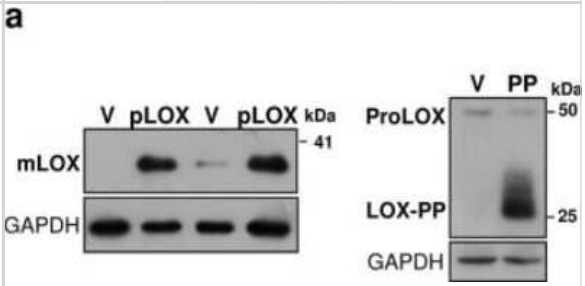
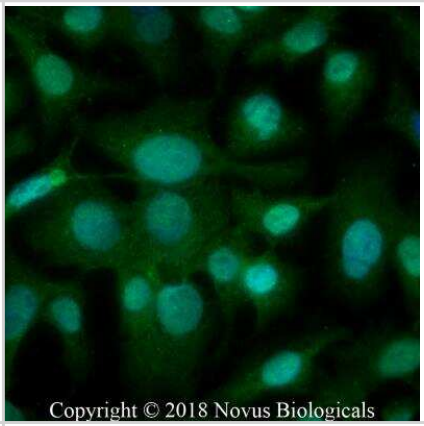
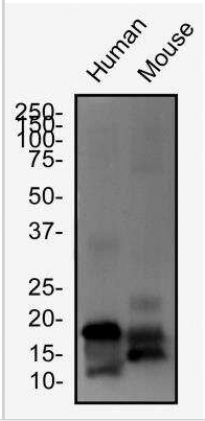
Product Application Details

Applications	Western Blot, Immunoblotting, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin
Recommended Dilutions	Western Blot 1:500-1:2000, Immunohistochemistry 0.5-1.0 ug/ml, Immunocytochemistry/ Immunofluorescence 5 ug/ml, Immunohistochemistry-Paraffin 1:100-1:250, Immunoblotting reported in scientific literature (PMID 26080361)
Application Notes	In Western Blot, a band is seen at ~18 kDa. The strong band at 50 kDa and smear of bands that run between 46 kDa and 50 kDa are glycosylated and non-glycosylated forms of pro-lysyl oxidase. Bands between 28-36 kDa are glycosylated propeptide. The variation in MW depends on the extent of glycosylation.

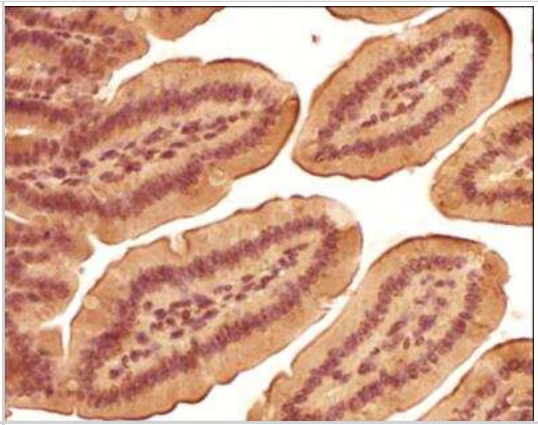
Images

Western Blot: LOX propeptide Antibody [NB110-41568] - Detection of LOPP in MC3T3-E1 cell lysate.

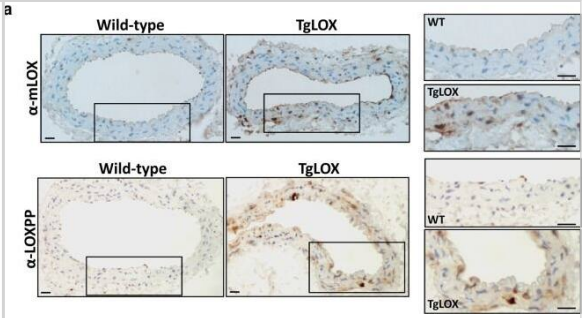


Immunohistochemistry: LOX propeptide Antibody [NB110-41568] - LOX-PP was over-expressed in the vascular wall and in VSMC from TgLOX mice. (a) Representative immunohistochemical analysis showing LOX-PP staining (brown color) in aorta from both wild-type and TgLOX mice. The indicated areas are shown at high magnification (bars = 20 um). Image collected and cropped by CiteAb from the following publication (https://www.nature.com/articles/s41598-018-31312-w) licensed under a CC-BY license.	
Western Blot: LOX propeptide Antibody - BSA Free [NB110-41568] - LOX propeptide Antibody [NB110-41568] - Human VSMC were transduced with a lentiviral vector encoding for full-length LOX (pLOX; black bars), LOX-PP (pLOX-PP; grey bars) or with the corresponding empty vector (pLVX; V; white bars). (a) Immunoblots corresponding to mature LOX (mLOX; left panel) & LOX-PP (right panel). The position of the pro-enzyme (ProLOX, right panel), detected with the antibody against the propeptide. GAPDH was analyzed as a loading control. Displayed blots are not cropped from different gels or different parts of the same gel. Representative immunoblots from 3 independent experiments were shown. Image collected & cropped by Cite Ab from the following publication (https://pubmed.ncbi.nlm.nih.gov/30185869/) licensed under a CC-BY license.	
Immunocytochemistry/Immunofluorescence: LOX propeptide Antibody [NB110-41568] - HepG2 cells were fixed for 10 minutes using 10% formalin and then permeabilized for 5 minutes using 1X PBS + 0.05% Triton-X100. The cells were incubated with anti-LOX propeptide at 5 ug/ml overnight at 4C and detected with an anti-rabbit Dylight 488 (Green) at a 1:500 dilution. Nuclei were counterstained with DAPI (Blue). Cells were imaged using a 40X objective.	
Western Blot: LOX propeptide Antibody [NB110-41568] - Total protein from human and mouse brain was separated on a 12% gel by SDS-PAGE, transferred to 0.2 um PVDF membrane and blocked in 5% non-fat milk in TBST. The membrane was probed with 0.5 ug/ml anti-LOX propeptide in block buffer and detected with an anti-rabbit HRP secondary antibody using chemiluminescence.	

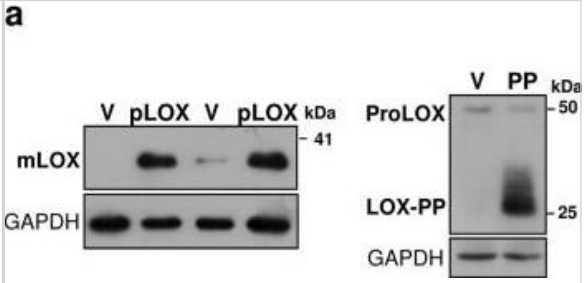
Immunohistochemistry-Paraffin: LOX propeptide Antibody [NB110-41568] - IHC analysis of a formalin fixed paraffin embedded tissue section of mouse intestine using 1:200 dilution of rabbit anti- LOX propeptide (LOX-PP) antibody. The staining was developed using HRP labeled anti-rabbit secondary antibody and DAB reagent, and nuclei of cells were counter-stained with hematoxylin. This LOX-PP antibody generated a strong cytoplasmic staining in the epithelial and other cells with a majority of the signal localizing to luminal end of columner epithelial cells. There appears to be some nuclear positivity also which might be a nuclear variant of LOX-PP.



Immunohistochemistry: LOX propeptide Antibody - BSA Free [NB110-41568] - Mature LOX & LOX-PP were over-expressed in the vascular wall & in VSMC from TgLOX mice. (a) Representative immunohistochemical analysis showing LOX & LOX-PP staining (brown color) in aorta from both wild-type & TgLOX mice. The indicated areas are shown at high magnification (bars = 20 µm). (b,c) Mature LOX & LOX-PP protein levels were determined by Western-blot in VSMC supernatants from these animals. The position of the pro-enzyme (ProLOX), mature LOX (mLOX) & LOX-PP forms are indicated. GAPDH was analyzed as loading control. Representative immunoblots from 3 independent experiments were shown. WT: wild-type; Tg: TgLOX. Displayed blots are not cropped from different gels or different parts of the same gel & images conform the digital image & integrity policies of the journal. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/30185869), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Western Blot: LOX propeptide Antibody - BSA Free [NB110-41568] - Over-expression of LOX-PP did not affect VSMC proliferation. Human VSMC were transduced with a lentiviral vector encoding for full-length LOX (pLOX; black bars), LOX-PP (pLOX-PP; grey bars) or with the corresponding empty vector (pLVX; V; white bars). (a) Immunoblots corresponding to mature LOX (mLOX; left panel) & LOX-PP (right panel) are shown. The position of the pro-enzyme (ProLOX, right panel), detected with the antibody against the propeptide, was also indicated. GAPDH was analyzed as a loading control. Displayed blots are not cropped from different gels or different parts of the same gel & images conform the digital image & integrity policies of the journal. Representative immunoblots from 3 independent experiments were shown. (b) Transduced VSMC were serum-starved for 24 h & then stimulated with 20% FCS. Cell proliferation was evaluated by the [3H]-thymidine incorporation method (left panel) or by cell count (right panel) in these cells. Results represented as mean ± SD. *P < 0.003 vs. pLVX (Kruskal-Wallis; at least n = 6). (c) [3H]-thymidine incorporation into DNA assessed in human VSMC transduced with lentiviral particles for full-length LOX (pLOX; black bars), or the corresponding empty vector (pLVX; white bars) treated or not with BAPN (500 µM). Results are represented as mean ± SD. P < 0.0001: * vs. pLVX; #vs. pLOX transduced cells (Two-way ANOVA; at least n = 9). Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/30185869), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Neff LS, Zhang Y, Van Laer AO et al. Mechanisms that limit regression of myocardial fibrosis following removal of left ventricular pressure overload American journal of physiology. Heart and circulatory physiology 2022-07-01 [PMID: 35657618]

Chandrakumar S, Santiago Tierno I, Agarwal M et al. Mechanical regulation of retinal vascular inflammation and degeneration in diabetes Diabetes 2023-11-21 [PMID: 37986627] (WB, Mouse)

Chandrakumar S, Tierno IS, Agarwal M et al. Subendothelial matrix stiffening by lysyl oxidase enhances RAGE-mediated retinal endothelial activation in diabetes Diabetes 2023-04-14 [PMID: 37058096]

Ilatovskaya, D V, Pitts, C Et al. CD8+ T-cells negatively regulate inflammation post-myocardial infarction. Am J Physiol Heart Circ Physiol 2019-09-01 [PMID: 31322426] (WB, Human)

Chu Q, Xiao Y, Song X, Kang YJ Extracellular matrix remodeling is associated with the survival of cardiomyocytes in the subendocardial region of the ischemic myocardium Experimental biology and medicine (Maywood, N.J.) 2021-09-13 [PMID: 34515546]

Shearer, D;Mervis, MO;Manley, E;Reddy, AB;Alford, AI; TSP1 and TSP2 deficiencies affect LOX protein distribution in the femoral diaphysis and pro-peptide removal in marrow-derived mesenchymal stem cells in vitro Connect. Tissue Res. 2019-04-02 [PMID: 30939949] (WB, Mouse)

Kielosto M, Eriksson J, Nummela P et al. Divergent roles of lysyl oxidase family members in ornithine decarboxylase- and RAS-transformed mouse fibroblasts and human melanoma cells. Oncotarget 2018-12-28 [PMID: 30701028] (WB, Mouse)

Varona S, Orriols M, Galan M et al. Lysyl oxidase (LOX) limits VSMC proliferation and neointimal thickening through its extracellular enzymatic activity. Sci Rep 2018-09-05 [PMID: 30185869] (IHC-P, Mouse)

Voorhees AP, DeLeon-Pennell KY, Ma Y et al. Building a better infarct: Modulation of collagen cross-linking to increase infarct stiffness and reduce left ventricular dilation post-myocardial infarction. J Mol Cell Cardiol 2015-08-01 [PMID: 26080361]

Contente S, Yeh TJ, Friedman RM. Tumor suppressive effect of lysyl oxidase proenzyme. Biochim Biophys Acta 2009-07-01 [PMID: 19410608] (Mouse)

Bais MV, Nugent MA, Stephens DN, Sume SS, Kirsch KH, Sonenshein GE, Trackman PC. Recombinant lysyl oxidase propeptide protein inhibits growth and promotes apoptosis of pre-existing murine breast cancer xenografts. PLoS One;7(2):e31188. 2012-01-01 [PMID: 22363577]

Palamakumbura, AH et al. The propeptide domain of lysyl oxidase induces phenotypic reversion of ras-transformed cells. JBC 279(39): 40593-40600. 2004-01-01 [PMID: 15277520]

Procedures

Immunohistochemistry-Paraffin protocol for LOX propeptide Antibody (NB110-41568)

Antigen Unmasking
- Bring slides to a boil in 10 mM sodium citrate buffer pH 6.0 then maintain at a sub-boiling temperature for 10 minutes. Cool slides on bench top for 30 minutes.

Staining
1. Wash sections in dH2O three times for 5 minutes each.
2. Wash section in wash buffer (1X PBS/0.1% Tween-20 (1X PBST)) for 5 minutes.
3. Block each section with 100-400 ul blocking solution (1X PBST, 5% goat serum) for 1 hour at room temperature.
4. Remove blocking solution and add 100-400 ul primary antibody diluted in 1X PBST, 5% goat serum to each section. Incubate overnight at 4C.
5. Remove antibody solution and wash sections in wash buffer three times for 5 minutes each.
6. Add 100-400 ul biotinylated secondary antibody, diluted in 1X PBST, 5% goat serum. Incubate 30 minutes at room temperature.
7. Remove secondary antibody solution and wash sections three times with wash buffer for 5 minutes each.
8. Add 100-400 ul Streptavidin-HRP reagent to each section and incubate for 30 minutes at room temperature.
9. Wash sections three times in wash buffer for 5 minutes each.
10. Add 100-400 ul DAB substrate to each section and monitor staining closely.
11. As soon as the sections develop, immerse slides in dH2O.
12. Counterstain sections in hematoxylin.
13. Wash sections in dH2O two times for 5 minutes each.
14. Dehydrate sections.
15. Mount coverslips.

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Products Related to NB110-41568

HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control
NB110-41568G	LOX propeptide Antibody [DyLight 488]

Limitations

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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