

LOXL2 Antibody (C-term)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP16131b**Specification**

LOXL2 Antibody (C-term) - Product Information

Application	WB,E
Primary Accession	O9Y4K0
Other Accession	B5DF27 , P58022 , E1C3U7 , A6H737 , NP_002309.1
Reactivity	Human
Predicted	Bovine, Chicken, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	86725
Antigen Region	589-617

LOXL2 Antibody (C-term) - Additional Information**Gene ID** 4017**Other Names**

Lysyl oxidase homolog 2, Lysyl oxidase-like protein 2, Lysyl oxidase-related protein 2, Lysyl oxidase-related protein WS9-14, LOXL2

Target/Specificity

This LOXL2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 589-617 amino acids from the C-terminal region of human LOXL2.

Dilution

WB~~1:1000

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

LOXL2 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

LOXL2 Antibody (C-term) - Protein Information**Name** LOXL2

Function Mediates the post-translational oxidative deamination of lysine residues on target proteins leading to the formation of deaminated lysine (allysine) (PubMed:[27735137](#)). Acts as a transcription corepressor and specifically mediates deamination of trimethylated 'Lys-4' of histone H3 (H3K4me3), a specific tag for epigenetic transcriptional activation (PubMed:[27735137](#)). Shows no activity against histone H3 when it is trimethylated on 'Lys-9' (H3K9me3) or 'Lys-27' (H3K27me3) or when 'Lys-4' is monomethylated (H3K4me1) or dimethylated (H3K4me2) (PubMed:[27735137](#)). Also mediates deamination of methylated TAF10, a member of the transcription factor IID (TFIID) complex, which induces release of TAF10 from promoters, leading to inhibition of TFIID-dependent transcription (PubMed:[25959397](#)). LOXL2-mediated deamination of TAF10 results in transcriptional repression of genes required for embryonic stem cell pluripotency including POU5F1/OCT4, NANOG, KLF4 and SOX2 (By similarity). Involved in epithelial to mesenchymal transition (EMT) via interaction with SNAI1 and participates in repression of E-cadherin CDH1, probably by mediating deamination of histone H3 (PubMed:[16096638](#), PubMed:[27735137](#), PubMed:[24414204](#)). During EMT, involved with SNAI1 in negatively regulating pericentromeric heterochromatin transcription (PubMed:[24239292](#)). SNAI1 recruits LOXL2 to pericentromeric regions to oxidize histone H3 and repress transcription which leads to release of heterochromatin component CBX5/HP1A, enabling chromatin reorganization and acquisition of mesenchymal traits (PubMed:[24239292](#)). Interacts with the endoplasmic reticulum protein HSPA5 which activates the IRE1-XBP1 pathway of the unfolded protein response, leading to expression of several transcription factors involved in EMT and subsequent EMT induction (PubMed:[28332555](#)). Involved in E-cadherin repression following hypoxia, a hallmark of EMT believed to amplify tumor aggressiveness, suggesting that it may play a role in tumor progression (PubMed:[20026874](#)). When secreted into the extracellular matrix, promotes cross-linking of extracellular matrix proteins by mediating oxidative deamination of peptidyl lysine residues in precursors to fibrous collagen and elastin (PubMed:[20306300](#)). Acts as a regulator of sprouting angiogenesis, probably via collagen IV scaffolding (PubMed:[21835952](#)). Acts as a regulator of chondrocyte differentiation, probably by regulating expression of factors that control chondrocyte differentiation (By similarity).

Cellular Location

Secreted, extracellular space, extracellular matrix, basement membrane. Nucleus. Chromosome. Endoplasmic reticulum. Note=Associated with chromatin (PubMed:[27735137](#)). It is unclear how LOXL2 is nuclear as it contains a signal sequence and has been shown to be secreted (PubMed:[23319596](#)) However, a number of reports confirm its intracellular location and its key role in transcription regulation (PubMed:[22204712](#), PubMed:[22483618](#)).

Tissue Location

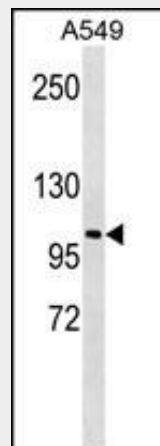
Expressed in many tissues (PubMed:[10212285](#)). Highest expression in reproductive tissues, placenta, uterus and prostate (PubMed:[10212285](#)). In esophageal epithelium, expressed in the basal, prickle and granular cell layers (PubMed:[22204712](#)). Up-regulated in a number of cancers cells and tissues.

LOXL2 Antibody (C-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

LOXL2 Antibody (C-term) - Images



LOXL2 Antibody (C-term) (Cat. #AP16131b) western blot analysis in A549 cell line lysates (35ug/lane). This demonstrates the LOXL2 antibody detected the LOXL2 protein (arrow).

LOXL2 Antibody (C-term) - Background

This gene encodes a member of the lysyl oxidase gene family. The prototypic member of the family is essential to the biogenesis of connective tissue, encoding an extracellular copper-dependent amine oxidase that catalyses the first step in the formation of crosslinks in collagens and elastin. 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.

LOXL2 Antibody (C-term) - References

Rodriguez, H.M., et al. J. Biol. Chem. 285(27):20964-20974(2010)
Ruckert, F., et al. Int J Colorectal Dis 25(3):303-311(2010)
Schietke, R., et al. J. Biol. Chem. 285(9):6658-6669(2010)
Sano, M., et al. Int. J. Oncol. 36(2):321-330(2010)
Kim, Y., et al. Oncol. Rep. 22(4):799-804(2009)