

**LOXL2 Antibody**  
Rabbit mAb  
Catalog # AP91535

## Specification

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### LOXL2 Antibody - Product Information

Application	WB, FC, ICC
Primary Accession	<a href="#">O9Y4K0</a>
Reactivity	Rat
Clonality	Monoclonal
<b>Other Names</b>	
LOR2; LOX L2; LOXL2; Lysyl oxidase homolog 2; Lysyl oxidase like 2; WS9 14;	
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	86725 Da

### LOXL2 Antibody - Additional Information

Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human LOXL2
Description	Mediates the post-translational oxidative deamination of lysine residues on target proteins leading to the formation of deaminated lysine (allysine). When secreted in extracellular matrix, promotes cross-linking of extracellular matrix proteins by mediating oxidative deamination of peptidyl lysine residues in precursors to fibrous collagen and elastin.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

### LOXL2 Antibody - 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](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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:<a href="http://www.uniprot.org/citations/27735137" target="\_blank">27735137</a>). 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:<a href="http://www.uniprot.org/citations/25959397" target="\_blank">25959397</a>). 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:<a href="http://www.uniprot.org/citations/16096638" target="\_blank">16096638</a>, PubMed:<a href="http://www.uniprot.org/citations/24414204" target="\_blank">24414204</a>, PubMed:<a href="http://www.uniprot.org/citations/27735137" target="\_blank">27735137</a>). During EMT, involved with SNAI1 in negatively regulating pericentromeric heterochromatin transcription (PubMed:<a href="http://www.uniprot.org/citations/24239292" target="\_blank">24239292</a>). 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:<a href="http://www.uniprot.org/citations/24239292" target="\_blank">24239292</a>). 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:<a href="http://www.uniprot.org/citations/28332555" target="\_blank">28332555</a>). 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:<a href="http://www.uniprot.org/citations/20026874" target="\_blank">20026874</a>). 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:<a href="http://www.uniprot.org/citations/20306300" target="\_blank">20306300</a>). Acts as a regulator of sprouting angiogenesis, probably via collagen IV scaffolding (PubMed:<a href="http://www.uniprot.org/citations/21835952" target="\_blank">21835952</a>). 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.

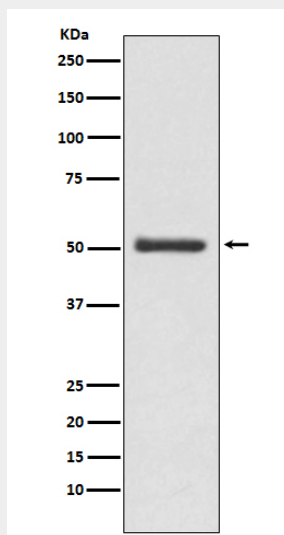
### LOXL2 Antibody - Protocols

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 - Images



Western blot analysis of LOXL2 expression in MCF7 cell lysate.