

**KD-Validated Anti-Lysyl oxidase like 2 Rabbit Monoclonal Antibody**  
**Rabbit monoclonal antibody**  
**Catalog # AGI1249****Specification****KD-Validated Anti-Lysyl oxidase like 2 Rabbit Monoclonal Antibody - Product Information**

Application	WB, FC, ICC
Primary Accession	<a href="#">Q9Y4K0</a>
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Calculated MW	Predicted, 87 kDa , observed, 53,106 kDa
Gene Name	KDa
Aliases	LOXL2 LOXL2; Lysyl Oxidase Like 2; WS9-14; LOR; Lysyl Oxidase-Related Protein WS9-14; Lysyl Oxidase-Related Protein 2; Lysyl Oxidase-Like Protein 2; Lysyl Oxidase Homolog 2; Lysyl Oxidase-Like 2 Delta E13; Lysyl Oxidase-Like 2 Protein; Lysyl Oxidase Related 2; Lysyl Oxidase-Like 2; EC 1.4.3.13; EC 1.4.3; LOR2
Immunogen	A synthesized peptide derived from human LOXL2

**KD-Validated Anti-Lysyl oxidase like 2 Rabbit Monoclonal Antibody - Additional Information**

Gene ID	4017
Other Names	
Lysyl oxidase homolog 2, 1.4.3.13, Lysyl oxidase-like protein 2, Lysyl oxidase-related protein 2, Lysyl oxidase-related protein WS9-14, LOXL2	

**KD-Validated Anti-Lysyl oxidase like 2 Rabbit Monoclonal 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:<a href="http://www.uniprot.org/citations/27735137" target="\_blank">27735137</a>). 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:<a href="http://www.uniprot.org/citations/27735137" target="\_blank">27735137</a>). 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 TFIIID-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.

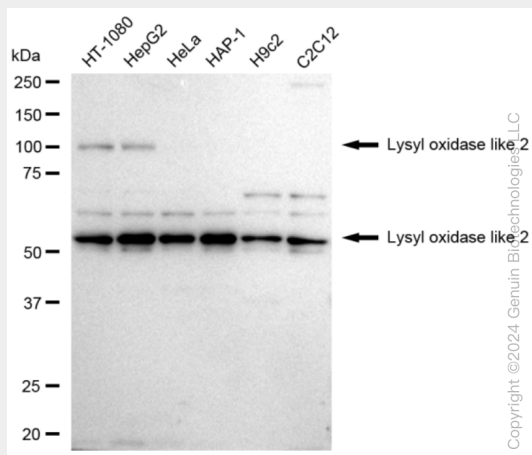
## KD-Validated Anti-Lysyl oxidase like 2 Rabbit Monoclonal Antibody - Protocols

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

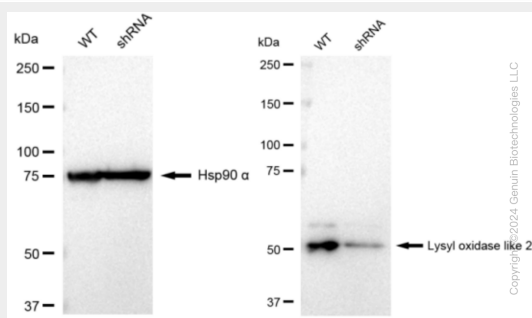
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)

- [Cell Culture](#)

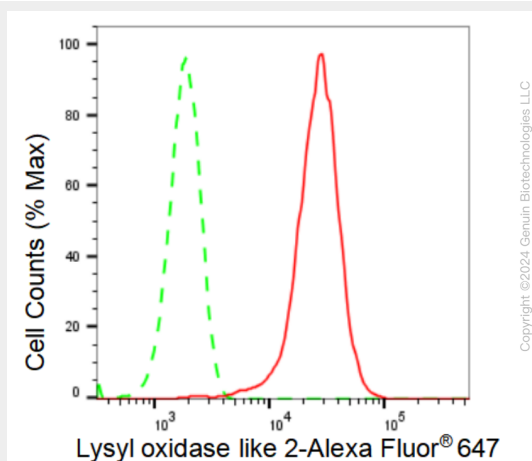
## KD-Validated Anti-Lysyl oxidase like 2 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-Lysyl oxidase like 2 antibody (Cat#AGI1249). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-Lysyl oxidase like 2 antibody (Cat#AGI1249, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.

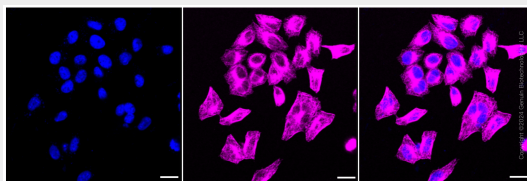


Western blotting analysis using anti-Lysyl oxidase like 2 antibody (Cat#AGI1249). Lysyl oxidase like 2 expression in wild type (WT) and lysyl oxidase like 2 shRNA knockdown (KD) HeLa cells with 30 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-Lysyl oxidase like 2 antibody (Cat#AGI1249, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of Lysyl oxidase like 2 expression in HepG2 cells using Lysyl oxidase like

2 antibody (Cat#AGI1249, 1:2,000). Green, isotype control; red, Lysyl oxidase like 2.



Immunocytochemical staining of HepG2 cells with Lysyl oxidase like 2 antibody (Cat#AGI1249, 1:1,000). Nuclei were stained blue with DAPI; Lysyl oxidase like 2 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20  $\mu$ m.