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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	Q9Y4K0
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 87 kDa , observed, 53,106 kDa KDa**
Gene Name	**LOXL2**
Aliases	**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: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:24414204, PubMed:27735137). 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.

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 Cytomety

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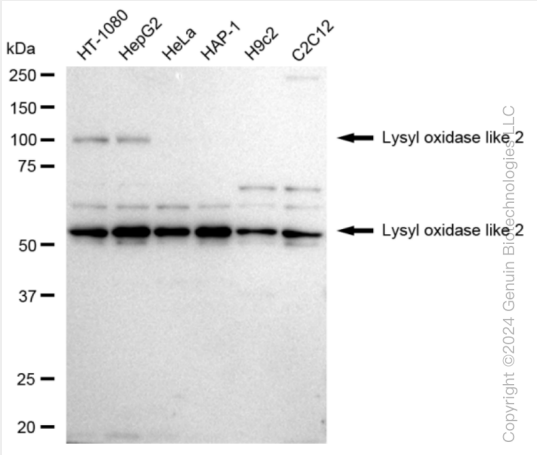
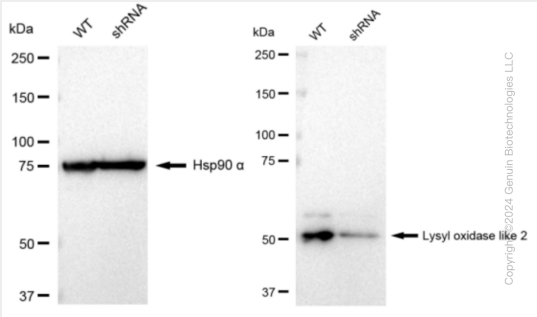
- Cell Culture

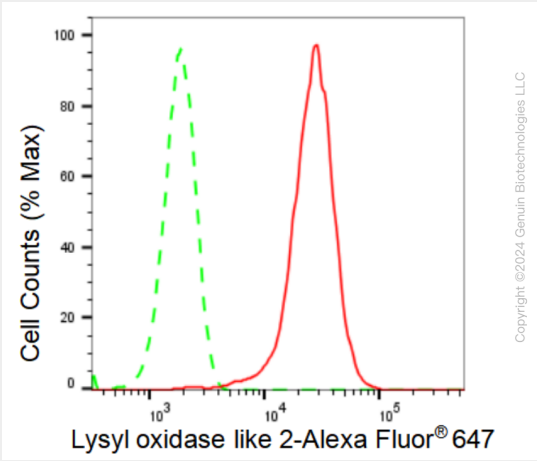
KD-Validated Anti-Lysyl oxidase like 2 Rabbit Monoclonal Antibody - Images



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

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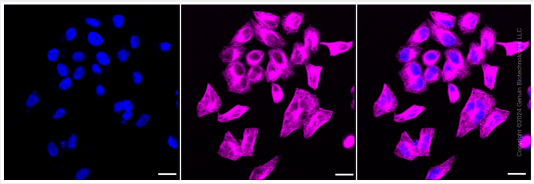
2 antibody (Cat#AGI1249, 1:2,000). Green, isotype control; red, Lysyl oxidase like 2.



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 µm.