

LOXL2 Antibody (aa454-742) Rabbit Polyclonal Antibody Catalog # ALS16338

Specification

LOXL2 Antibody (aa454-742) - Product Information

Application Primary Accession Reactivity Host Clonality Calculated MW Dilution WB, IHC-P <u>O9Y4K0</u> Human, Mouse, Rat Rabbit Polyclonal 87kDa KDa WB~~1:1000 IHC-P~~N/A

LOXL2 Antibody (aa454-742) - 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

Target/Specificity Human LOXL2

Reconstitution & Storage Keep as concentrated solution. Aliquot and store at -20°C or below. Avoid multiple freeze-thaw cycles.

Precautions LOXL2 Antibody (aa454-742) is for research use only and not for use in diagnostic or therapeutic procedures.

LOXL2 Antibody (aa454-742) - 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:<a href="http://www.uniprot.org/citations/25959397"

target="_blank">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:27735137). During EMT, involved with SNAI1 in negatively regulating pericentromeric heterochromatin transcription (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:<a href="http://www.uniprot.org/citations/20026874"]

target="_blank">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 (aa454-742) - Protocols

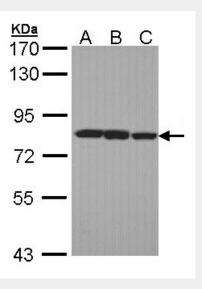
Provided below are standard protocols that you may find useful for product applications.

- <u>Western Blot</u>
- <u>Blocking Peptides</u>
- <u>Dot Blot</u>
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation

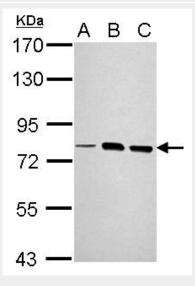


- Flow Cytomety
- <u>Cell Culture</u>

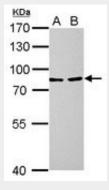
LOXL2 Antibody (aa454-742) - Images



Sample (30 ug of whole cell lysate).

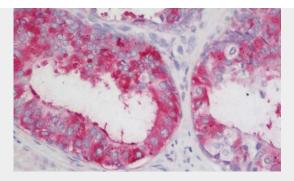


Sample (30 ug of whole cell lysate).



LOXL2 antibody detects LOXL2 protein by Western blot analysis.





Anti-LOXL2 antibody IHC staining of human prostate.

LOXL2 Antibody (aa454-742) - Background

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LOXL2 Antibody (aa454-742) - References

Saito H., et al.J. Biol. Chem. 272:8157-8160(1997). Ota T., et al.Nat. Genet. 36:40-45(2004). Suzuki Y., et al.Submitted (APR-2005) to the EMBL/GenBank/DDBJ databases. Nusbaum C., et al.Nature 439:331-335(2006). Jourdan-Le Saux C., et al.J. Biol. Chem. 274:12939-12944(1999).