

**Anti-LOXL2 Reference Antibody (simtuzumab)  
Recombinant Antibody  
Catalog # APR10132****Specification**

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**Anti-LOXL2 Reference Antibody (simtuzumab) - Product Information**

Application	FC, Kinetics, Animal Model
Primary Accession	<a href="#">Q9Y4K0</a>
Reactivity	Human
Clonality	Monoclonal
Isotype	IgG4
Calculated MW	150 KDa

**Anti-LOXL2 Reference Antibody (simtuzumab) - Additional Information****Target/Specificity**  
LOXL2**Endotoxin**  
< 0.001EU/ µg,determined by LAL method.**Conjugation**  
Unconjugated**Expression system**  
CHO Cell**Format**  
Purified monoclonal antibody supplied in PBS, pH6.0, without preservative.This antibody is purified through a protein A column.**Anti-LOXL2 Reference Antibody (simtuzumab) - 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 TFIID-dependent transcription (PubMed:<a href="http://www.uniprot.org/citations/25959397" target="\_blank">25959397</a>).

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**

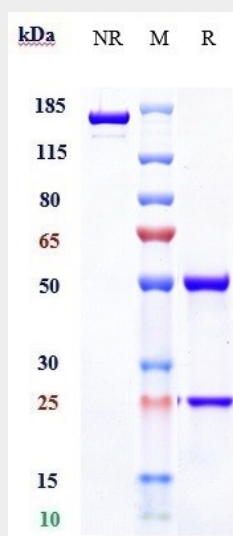
Expressed in many tissues (PubMed:10212285). Highest expression in reproductive tissues, placenta, uterus and prostate (PubMed:10212285). In esophageal epithelium, expressed in the basal, prickle and granular cell layers (PubMed:22204712). Up-regulated in a number of cancers cells and tissues.

#### **Anti-LOXL2 Reference Antibody (simtuzumab) - Protocols**

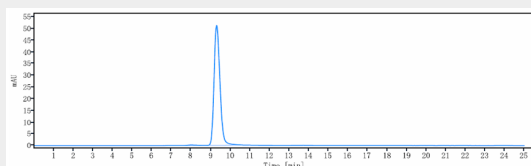
Provided below are standard protocols that you may find useful for product applications.

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

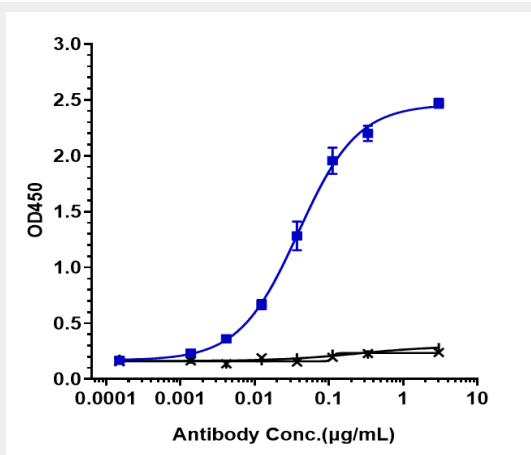
#### **Anti-LOXL2 Reference Antibody (simtuzumab) - Images**



Anti-LOXL2 Reference Antibody (simtuzumab) on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%



The purity of Anti-LOXL2 Reference Antibody (simtuzumab) is more than 99.41%, determined by SEC-HPLC.



Immobilized human LOXL2 His at 2 μg/mL can bind Anti-LOXL2 Reference Antibody (simtuzumab)  $EC_{50}=0.03857 \mu\text{g/mL}$