Data Sheet (Cat.No.TMAH-00701)

Anti-LOXL2 Antibody (7E788)

Product Details

Ig Type:	Rabbit IgG
Reactivity:	Human, Mouse, Rat
Conjugation:	Unconjugated
Clone:	7E788
Purification:	Affinity-chromatography

Applications

Verified Activity:

1. Western Blot
-Positive WB detected in: MCF-7 whole cell lysate, PC3 whole cell lysate, Mouse brain tissue, Rat brain tissue
-All lanes: LOXL2 antibody at 1:2000
-Secondary: Goat polyclonal to rabbit IgG at 1/50000 dilution
-Predicted band size: 87 kDa
-Observed band size: 53 kDa
2. IHC image of TMAH-00701 diluted at 1:100 and staining in paraffin-embedded human prostate tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.
3. IHC image of TMAH-00701 diluted at 1:100 and staining in paraffin-embedded human placenta tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.
4. Immunofluorescence staining of HepG2 Cells with TMAH-00701 at 1:50, counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeated by 0.2% TritonX-100, and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4°C. Nuclear DNA was labeled in blue with DAPI. The secondary antibody was FITC-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L).
5. Overlay histogram showing A549 cells stained with TMAH-00701 (red line) at 1:50. The cells were fixed with 70% Ethylalcohol (18h) and then incubated in 10% normal goat serum to block non-specific protein-protein interactions followedby the antibody (1μg/1*10^6 cells) for 1 h at 4°C.The secondary antibody used was FITC-conjugated goat anti-rabbit IgG (H+L) at 1/200 dilution for 30min at 4°C. Control antibody (green line) was Rabbit IgG (1μg/1*10^6 cells) used under the same conditions. Acquisition of >10,000 events was performed.

Application:	ELISA,FCM,IF,IHC,WB
Recommended	WB:1:500-1:5000; IHC:1:50-1:200; IF:1:20-1:200; FCM:1:20-1:200.

Properties

Stability & Storage:	Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.
Shipping:	Shipping with blue ice.

Antigen Details

Immunogen:	A synthetic peptide: Human LOXL2
Antigen Species:	Human
Gene ID:	4017
Uniprot ID:	Q9Y4K0
Synonyms:	LOR2;LOR;WS9-14
Biology Area:	Cancer, Signal transduction

Research Background

Mediates the post-translational oxidative deamination of lysine residues on target proteins leading to the formation of deaminated lysine (allysine). Acts as a transcription corepressor and specifically mediates deamination of trimethylated 'Lys-4' of histone H3 (H3K4me3), a specific tag for epigenetic transcriptional activation. 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). 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. LOXL2-mediated deamination of TAF10 results in transcriptional repression of genes required for embryonic stem cell pluripotency including POU5F1/OCT4, NANOG, KLF4 and SOX2. 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. During EMT, involved with SNAI1 in negatively regulating pericentromeric heterochromatin transcription. 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. 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. 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. 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. Acts as a regulator of sprouting angiogenesis, probably via collagen IV scaffolding. Acts as a regulator of chondrocyte differentiation, probably by regulating expression of factors that control chondrocyte differentiation.

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