

Anti-Aldehyde Oxidase Antibody

Catalog # AP51721

Product Information

Application	WB, IHC, IF/IC
Primary Accession	Q06278
Reactivity	Human, Mouse, Rat, Mk
Host	Rabbit
Clonality	Polyclonal
Calculated MW	147918

Additional Information

Gene ID	316
Other Names	AO; Aldehyde oxidase; Aldehyde oxidase 1; Azaheterocycle hydroxylase
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human Aldehyde Oxidase. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000) IHC~~1:100~500 IF/IC~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	AOX1 (HGNC:553)
Synonyms	AO
Function	Oxidase with broad substrate specificity, oxidizing aromatic azaheterocycles, such as N1-methylnicotinamide, N-methylphthalazinium and phthalazine, as well as aldehydes, such as benzaldehyde, retinal, pyridoxal, and vanillin. Plays a key role in the metabolism of xenobiotics and drugs containing aromatic azaheterocyclic substituents. Participates in the bioactivation of prodrugs such as famciclovir, catalyzing the oxidation step from 6-deoxypenciclovir to penciclovir, which is a potent antiviral agent. Is probably involved in the regulation of reactive oxygen species homeostasis. May be a prominent source of superoxide generation via the one-electron reduction of molecular oxygen. May also catalyze nitric oxide (NO) production via the reduction of nitrite to NO with NADH or aldehyde as electron donor. May play a role in adipogenesis.
Cellular Location	Cytoplasm

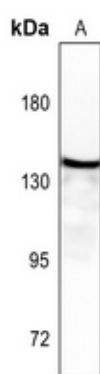
Tissue Location

Abundant in liver, expressed in adipose tissue and at lower levels in lung, skeletal muscle, pancreas. In contrast to mice, no significant gender difference in AOX1 expression level (at protein level).

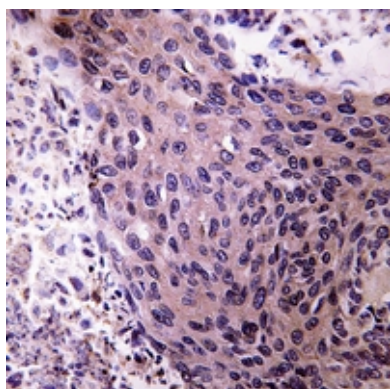
References

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Wright R.M.,et al.Redox Rep. 3:135-144(1997).
Ichida K.,et al.Biochem. Biophys. Res. Commun. 282:1194-1200(2001).
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Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.

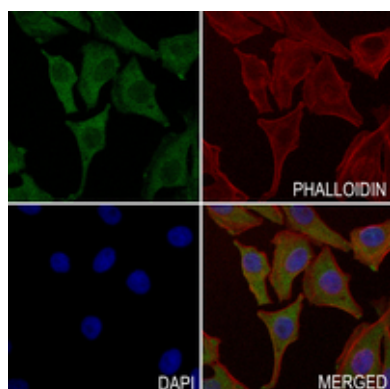
Images



Western blot analysis of Aldehyde Oxidase expression in rat liver (A) whole cell lysates. (Predicted band size: 147 kD; Observed band size: 147 kD)



Immunohistochemical analysis of Aldehyde Oxidase staining in human lung cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunofluorescent analysis of Aldehyde Oxidase staining in MCF7 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF594 was used to stain Actin filaments (red). DAPI was used to stain the cell nuclei (blue).