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CYP1A1 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7993B

Specification

CYP1A1 Antibody (C-term) - Product Information

Application	**WB, IHC-P,E**
Primary Accession	P04798
Other Accession	P33616
Reactivity	**Human, Mouse**
Predicted	**Monkey**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**377-406**

CYP1A1 Antibody (C-term) - Additional Information

Gene ID 1543

Other Names
Cytochrome P450 1A1, CYPIA1, Cytochrome P450 form 6, Cytochrome P450-C, Cytochrome P450-P1, CYP1A1

Target/Specificity
This CYP1A1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 377-405 amino acids from the C-terminal region of human CYP1A1.

Dilution
WB~~1:1000
IHC-P~~1:10~50

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
CYP1A1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

CYP1A1 Antibody (C-term) - Protein Information

Name CYP1A1 {ECO:0000303|PubMed:10681376, ECO:0000312|HGNC:HGNC:2595}

Function A cytochrome P450 monooxygenase involved in the metabolism of various endogenous substrates, including fatty acids, steroid hormones and vitamins (PubMed:10681376, PubMed:11555828, PubMed:12865317, PubMed:14559847, PubMed:15041462, PubMed:15805301, PubMed:18577768, PubMed:19965576, PubMed:20972997). Mechanistically, uses molecular oxygen inserting one oxygen atom into a substrate, and reducing the second into a water molecule, with two electrons provided by NADPH via cytochrome P450 reductase (NADPH--hemoprotein reductase) (PubMed:10681376, PubMed:11555828, PubMed:12865317, PubMed:14559847, PubMed:15041462, PubMed:15805301, PubMed:18577768, PubMed:19965576, PubMed:20972997). Catalyzes the hydroxylation of carbon-hydrogen bonds. Exhibits high catalytic activity for the formation of hydroxyestrogens from estrone (E1) and 17beta-estradiol (E2), namely 2-hydroxy E1 and E2, as well as D-ring hydroxylated E1 and E2 at the C15-alpha and C16- alpha positions (PubMed:11555828, PubMed:12865317, PubMed:14559847, PubMed:15805301). Displays different regioselectivities for polyunsaturated fatty acids (PUFA) hydroxylation (PubMed:15041462, PubMed:18577768). Catalyzes the epoxidation of double bonds of certain PUFA (PubMed:15041462, PubMed:19965576, PubMed:20972997). Converts arachidonic acid toward epoxyeicosatrienoic acid (EET) regioisomers, 8,9-, 11,12-, and 14,15-EET, that function as lipid mediators in the vascular system (PubMed:20972997). Displays an absolute stereoselectivity in the epoxidation of eicosapentaenoic acid (EPA) producing the 17(R),18(S) enantiomer (PubMed:15041462). May play an important role in all-trans retinoic acid biosynthesis in extrahepatic tissues. Catalyzes two successive oxidative transformation of all-trans retinol to all-trans retinal and then to the active form all-trans retinoic acid (PubMed:10681376). May also participate in eicosanoids metabolism by converting hydroperoxide species into oxo metabolites (lipoxygenase-like reaction, NADPH-independent) (PubMed:21068195).

Cellular Location
Endoplasmic reticulum membrane {ECO:0000250|UniProtKB:P00185}; Peripheral membrane protein {ECO:0000250|UniProtKB:P00185}. Mitochondrion inner membrane {ECO:0000250|UniProtKB:P00185}; Peripheral membrane protein {ECO:0000250|UniProtKB:P00185}. Microsome membrane {ECO:0000250|UniProtKB:P00185}; Peripheral membrane protein {ECO:0000250|UniProtKB:P00185}. Cytoplasm {ECO:0000250|UniProtKB:P00185}

Tissue Location
Lung, lymphocytes and placenta.

CYP1A1 Antibody (C-term) - 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
- Cell Culture

CYP1A1 Antibody (C-term) - Images

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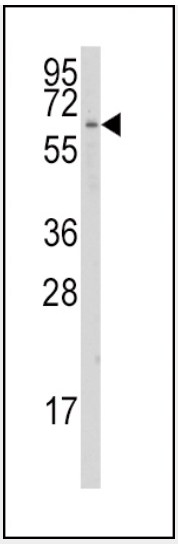
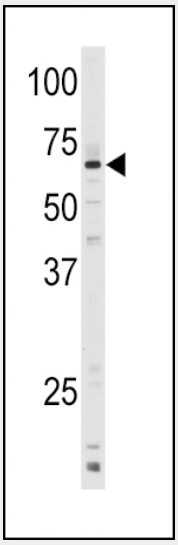
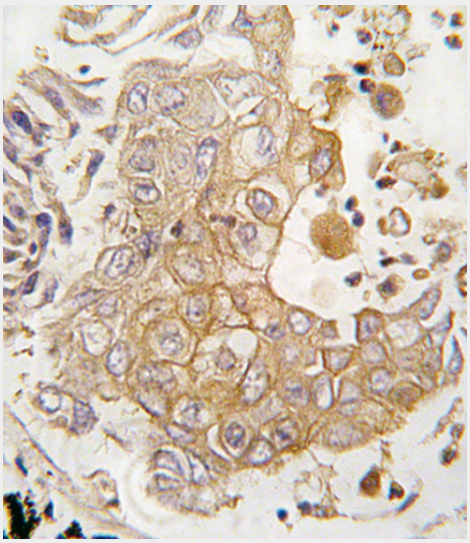


Western blot analysis of anti-CYP1A1 Antibody (C-term) (Cat.#AP7993b) in K562 cell line lysates (35ug/lane). CYP1A1(arrow) was detected using the purified Pab.



Western blot analysis of anti-CYP1A1 Antibody (C-term) (Cat.#AP7993b) in mouse lung tissue lysates (35ug/lane). CYP1A1(arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human lung carcinoma tissue reacted with CYP1A1 antibody (C-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

CYP1A1 Antibody (C-term) - Background

CYP1A1 is a member of the cytochrome P450 superfamily of enzymes. The cytochrome P450 proteins are monooxygenases which catalyze many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids. This protein localizes to the endoplasmic reticulum and its expression is induced by some polycyclic aromatic hydrocarbons (PAHs), some of which are found in cigarette smoke. The enzyme's endogenous substrate is unknown; however, it is able to metabolize some PAHs to carcinogenic intermediates. CYP1A1 gene has been associated with lung cancer risk.

CYP1A1 Antibody (C-term) - References

Delpisheh,A., Eur. J. Obstet. Gynecol. Reprod. Biol. 143 (1), 38-42 (2009) Zhuo,W., Cancer Invest. 27 (1), 86-95 (2009)

CYP1A1 Antibody (C-term) - Citations

- Unraveling the treatment effects of huanglian jiedu decoction on drug-induced liver injury based on network pharmacology, molecular docking and experimental validation
- Insights into the metabolic characteristics of aminopropanediol analogues of SYLs as S1P modulators: from structure to metabolism
- NHC-gold compounds mediate immune suppression through induction of AHR-TGFβ1 signalling in vitro and in scurfy mice
- Restoring circadian synchrony in vitro facilitates physiological responses to environmental chemicals
- Evaluation of the effect of the new methoxy-stilbenes on expression of receptors and enzymes involved in estrogen synthesis in cancer breast cells.
- Differential effect of troglitazone on the human bile acid transporters, MRP2 and BSEP, in the PXB hepatic chimeric mouse.