

Anti-CYP1A2 Antibody
Catalog # ABO11211**Specification**

Anti-CYP1A2 Antibody - Product Information

Application	WB, IHC
Primary Accession	P05177
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Cytochrome P450 1A2(CYP1A2) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-CYP1A2 Antibody - Additional Information

Gene ID 1544

Other Names

Cytochrome P450 1A2, 1.14.14.1, CYP1A2, Cholesterol 25-hydroxylase, Cytochrome P(3)450, Cytochrome P450 4, Cytochrome P450-P3, CYP1A2

Calculated MW

58294 MW KDa

Application Details

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Rat, Human, Mouse, By Heat

Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat

Subcellular Localization

Endoplasmic reticulum membrane; Peripheral membrane protein. Microsome membrane; Peripheral membrane protein.

Tissue Specificity

Liver.

Protein Name

Cytochrome P450 1A2

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Thimerosal, 0.05mg NaN₃.

Immunogen

A synthetic peptide corresponding to a sequence in the middle region of human CYP1A2 (265-282aa QKTVQEHYQDFDKNSVRD), different from the related rat and mouse sequences by

three amino acids.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After r°Constitution, at 4°C for one month. It°Can also be aliquotted and stored frozen at -20°C for a longer time.Avoid repeated freezing and thawing.

Sequence Similarities

Belongs to the cytochrome P450 family.

Anti-CYP1A2 Antibody - Protein Information

Name CYP1A2 {ECO:0000303|PubMed:2575218, ECO:0000312|HGNC:HGNC:2596}

Function

A cytochrome P450 monooxygenase involved in the metabolism of various endogenous substrates, including fatty acids, steroid hormones and vitamins (PubMed:9435160, PubMed:10681376, PubMed:11555828, PubMed:12865317, PubMed:19965576). 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:9435160, PubMed:10681376, PubMed:11555828, PubMed:12865317, PubMed:19965576). Catalyzes the hydroxylation of carbon-hydrogen bonds (PubMed:11555828, PubMed:12865317). Exhibits high catalytic activity for the formation of hydroxysteroids from estrone (E1) and 17beta- estradiol (E2), namely 2-hydroxy E1 and E2 (PubMed:11555828, PubMed:12865317). Metabolizes cholesterol toward 25-hydroxycholesterol, a physiological regulator of cellular cholesterol homeostasis (PubMed:21576599). May act as a major enzyme for all-trans retinoic acid biosynthesis in the liver. 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). Primarily catalyzes stereoselective epoxidation of the last double bond of polyunsaturated fatty acids (PUFA), displaying a strong preference for the (R,S) stereoisomer (PubMed:19965576). Catalyzes bisallylic hydroxylation and omega-1 hydroxylation of PUFA (PubMed:9435160). May also participate in eicosanoids metabolism by converting hydroperoxide species into oxo metabolites (lipoxygenase-like reaction, NADPH- independent)

(PubMed:21068195). Plays a role in the oxidative metabolism of xenobiotics. Catalyzes the N-hydroxylation of heterocyclic amines and the O-deethylation of phenacetin (PubMed:14725854). Metabolizes caffeine via N3-demethylation (Probable).

Cellular Location

Endoplasmic reticulum membrane; Peripheral membrane protein. Microsome membrane; Peripheral membrane protein

Tissue Location

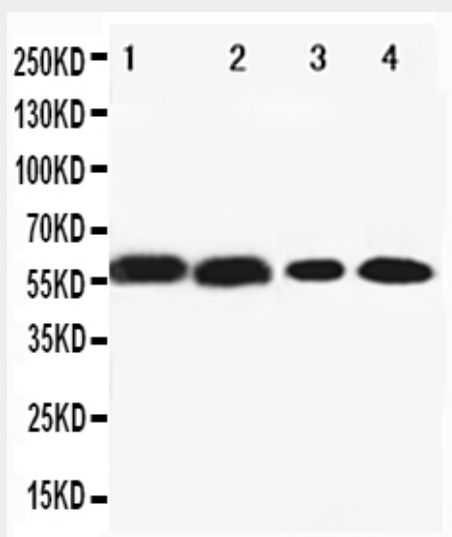
Liver.

Anti-CYP1A2 Antibody - Protocols

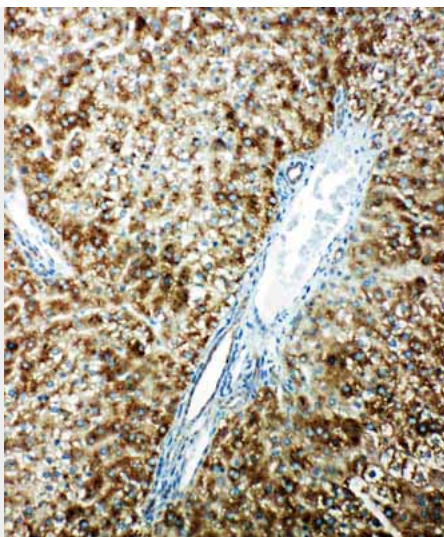
Provided below are standard protocols that you may find useful for product applications.

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

Anti-CYP1A2 Antibody - Images



Anti-CYP1A2 antibody, ABO11211, Western blotting
Lane 1: Rat Liver Tissue Lysate
Lane 2: Rat Liver Tissue Lysate
Lane 3: SMMC Cell Lysate
Lane 4: HEPA Cell Lysate



Anti-CYP1A2 antibody, ABO11211, IHC(P)IHC(P): Rat Liver Tissue

Anti-CYP1A2 Antibody - Background

CYP1A2(Cytochrome P450, Subfamily I, Polypeptide 2) is a member of the cytochrome P450 mixed-function oxidase system and is involved in the metabolism of xenobiotics in the body. CYP1A2 is a member of the cytochrome P450 superfamily of enzymes. In humans, the CYP1A2 enzyme is encoded by the CYP1A2 gene. CYP1A2 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 CYP1A2 gene encodes a P450 enzyme involved in O-deethylation of phenacetin. Ikeya et al.(1989) found that the human CYP1A2 gene spans almost 7.8 kb and contains 7 exons. The CYP1A2 gene is mapped on 15q24.1. CYP1A2 accounts for nearly 15% of the cytochrome P450 in the human liver. CYP1A2 displays higher activity in men than in women, and is inhibited by oral contraceptives. Inducers of CYP1A2 include cruciferous vegetables. Cigarette smoking has also been shown to increase CYP1A2 activity. Expression of CYP1A2 appears to be induced by various dietary constituents.