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Anti-CYP1A2 Picoband Antibody

Catalog # ABO12232

Product Information

Application	WB, IHC-P
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.

Additional Information

Gene ID	1544
Other Names	Cytochrome P450 1A2, 1.14.14.1, CYPIA2, Cholesterol 25-hydroxylase, Cytochrome P(3)450, Cytochrome P450 4, Cytochrome P450-P3, CYP1A2
Calculated MW	58407
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Mouse, Rat, By Heat Western blot, 0.1-0.5 □g/ml, Mouse, Rat, Human
Subcellular Localization	Endoplasmic reticulum membrane; Peripheral membrane protein. Microsome membrane; Peripheral membrane protein.
Tissue Specificity	Liver.
Source	Eukaryota
Protein Name	Cytochrome P450 1A2
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	E.coli-derived human CYP1A2 recombinant protein (Position: H185-D320). Human CYP1A2 shares 69.9% and 72.1% amino acid (aa) sequence identity with mouse and rat CYP1A2, respectively.
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.

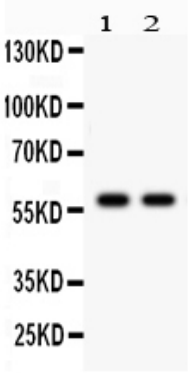
Protein Information

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:10681376, PubMed:11555828, PubMed:12865317, PubMed:19965576, PubMed:9435160). 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:19965576, PubMed:9435160). Catalyzes the hydroxylation of carbon-hydrogen bonds (PubMed:11555828, PubMed:12865317). Exhibits high catalytic activity for the formation of hydroxyestrogens 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.

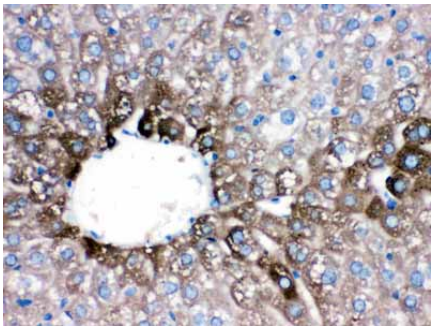
Background

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.

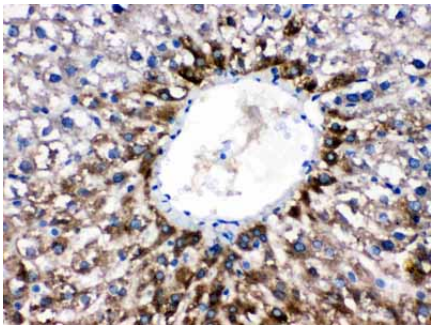
Images



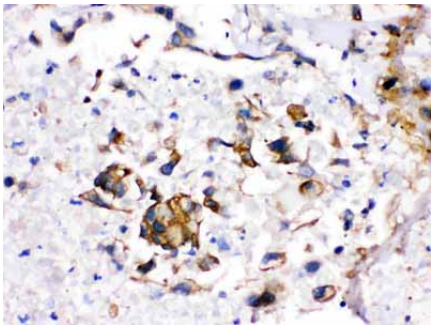
Anti- CYP1A2 Picoband antibody, ABO12232, Western blottingAll lanes: Anti CYP1A2 (ABO12232) at 0.5ug/mlLane 1: Rat Liver Tissue Lysate at 50ugLane 2: Mouse Liver Tissue Lysate at 50ugPredicted bind size: 58KDObserved bind size: 58KD



Anti- CYP1A2 Picoband antibody, ABO12232, IHC(P)IHC(P): Mouse Liver Tissue



Anti- CYP1A2 Picoband antibody, ABO12232, IHC(P)IHC(P): Rat Liver Tissue



Anti- CYP1A2 Picoband antibody, ABO12232, IHC(P)IHC(P): Human Liver Cancer Tissue

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.