10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-CYP1A2 Picoband Antibody

Catalog # ABO12232

Specification

Anti-CYP1A2 Picoband 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 Picoband Antibody - 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
58294 MW KDa

Application Details
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, Rat, By Heat
Western blot, 0.1-0.5 µg/ml, Mouse, Rat, Human

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 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.

Anti-CYP1A2 Picoband 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: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.

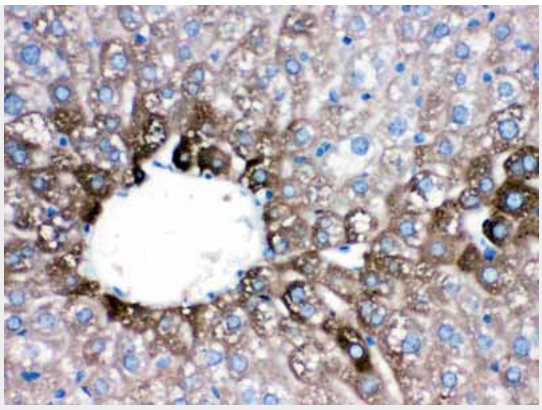
Anti-CYP1A2 Picoband Antibody - Protocols

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

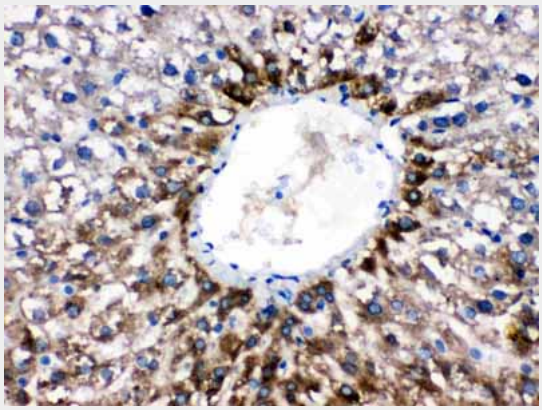
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-CYP1A2 Picoband Antibody - Images

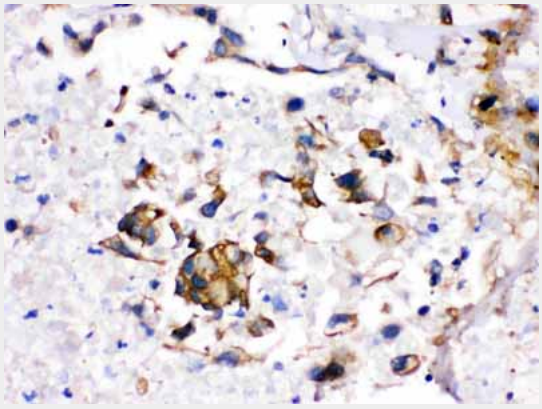
Anti- CYP1A2 Picoband antibody, ABO12232, Western blottingAll lanes: Anti CYP1A2 (ABO12232) at 0.5ug/mlLane 1: Rat Liver Tissue Lysate at 50ugLane 2: Mouse Liver Tissue Lysate at 50ugPredicted bind size: 58KDObserved bind size: 58KD



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

Anti-CYP1A2 Picoband 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.