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Cytochrome P450 1A2 Antibody

Rabbit mAb
Catalog # AP91933

Product Information

Application	WB, IF, FC, ICC
Primary Accession	P05177
Reactivity	Human
Clonality	Monoclonal
Other Names	CP12; CYP1A2; CYPIA2; P3 450; P450 4; P450 P3;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	58407

Additional Information

Dilution	WB 1:500~1:2000 ICC/IF 1:50~1:200 FC 1:500
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human Cytochrome P450 1A2
Description	Cytochromes P450 are a group of heme-thiolate monooxygenases. In liver microsomes, this enzyme is involved in an NADPH-dependent electron transport pathway.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Protein Information

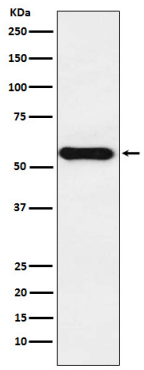
Name	CYP1A2 {ECO:0000303|PubMed:2575218, ECO:0000312|HGNC:HGNC:2596}
Function	A cytochrome P450 monooxygenase involved in the metabolism of various endogenous substrates, including fatty acids, steroid hormones and vitamins (PubMed:10681376, PubMed:11555828, PubMed:12865317, PubMed:19965576, PubMed:9435160). 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.

Images



Western blot analysis of Cytochrome P450 1A2 expression in Caco2 cell lysate.