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# Cytochrome P450 4F2 Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP51151

## Product Information

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| **Application** | WB, IP, IHC-P |
| **Primary Accession** | P78329 |
| **Reactivity** | Human, Mouse, Rat |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Calculated MW** | 59853 |

## Additional Information

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| **Gene ID** | 8529 |
| **Other Names** | Phylloquinone omega-hydroxylase CYP4F2, 20-hydroxyeicosatetraenoic acid synthase, 20-HETE synthase, 11413-, Arachidonic acid omega-hydroxylase, CYPIVF2, Cytochrome P450 4F2, Cytochrome P450-LTB-omega, Leukotriene-B(4) 20-monooxygenase 1, Leukotriene-B(4) omega-hydroxylase 1, CYP4F2 (HGNC:2645) |
| **Dilution** | WB~~1:1000 IP~~N/A IHC-P~~N/A |
| **Format** | 0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50% |
| **Storage** | Store at -20 °C.Stable for 12 months from date of receipt |

## Protein Information

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| **Name** | CYP4F2 {ECO:0000303\|PubMed:10492403, ECO:0000312\|HGNC:HGNC:2645} |
| **Function** | A cytochrome P450 monooxygenase involved in the metabolism of various endogenous substrates, including fatty acids, eicosanoids and vitamins (PubMed:10660572, PubMed:10833273, PubMed:11997390, PubMed:17341693, PubMed:18574070, PubMed:18577768). 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 (CPR; NADPH-ferrihemoprotein reductase). Catalyzes predominantly the oxidation of the terminal carbon (omega-oxidation) of long- and very long-chain fatty acids. Displays high omega-hydroxylase activity toward polyunsaturated fatty acids (PUFAs) (PubMed:18577768). Participates in the conversion of arachidonic acid to omega-hydroxyeicosatetraenoic acid (20-HETE), a signaling molecule acting both as vasoconstrictive and natriuretic with overall effect on arterial blood pressure (PubMed:10660572, PubMed:17341693, PubMed:18574070). Plays a role in the oxidative inactivation of eicosanoids, including both |

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| | pro-inflammatory and anti- inflammatory mediators such as leukotriene B4 (LTB4), lipoxin A4 (LXA4), and several HETEs (PubMed:10660572, PubMed:10833273, PubMed:17341693, PubMed:18574070, PubMed:18577768, PubMed:8026587, PubMed:9799565). Catalyzes omega-hydroxylation of 3-hydroxy fatty acids (PubMed:18065749). Converts monoepoxides of linoleic acid leukotoxin and isoleukotoxin to omega-hydroxylated metabolites (PubMed:15145985). Contributes to the degradation of very long-chain fatty acids (VLCFAs) by catalyzing successive omega-oxidations and chain shortening (PubMed:16547005, PubMed:18182499). Plays an important role in vitamin metabolism by chain shortening. Catalyzes omega-hydroxylation of the phytyl chain of tocopherols (forms of vitamin E), with preference for gamma-tocopherols over alpha-tocopherols, thus promoting retention of alpha-tocopherols in tissues (PubMed:11997390). Omega-hydroxylates and inactivates phylloquinone (vitamin K1), and menaquinone-4 (MK-4, a form of vitamin K2), both acting as cofactors in blood coagulation (PubMed:19297519, PubMed:24138531). |
| **Cellular Location** | Microsome membrane; Peripheral membrane protein. Endoplasmic reticulum membrane; Peripheral membrane protein |
| **Tissue Location** | Liver. Also present in kidney: specifically expressed in the S2 and S3 segments of proximal tubules in cortex and outer medulla (PubMed:10660572). |

## Background

Cytochromes P450 are a group of heme-thiolate monooxygenases. In liver microsomes, this enzyme is involved in an NADPH-dependent electron transport pathway. It oxidizes a variety of structurally unrelated compounds, including steroids, fatty acids, and xenobiotics.

## References

Kikuta Y.,et al.FEBS Lett. 348:70-74(1994).
Chen L.,et al.Submitted (JUL-2000) to the EMBL/GenBank/DDBJ databases.
Kikuta Y.,et al.DNA Cell Biol. 18:723-730(1999).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Grimwood J.,et al.Nature 428:529-535(2004).

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