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Anti-CYP27B1 Picoband Antibody

Catalog # ABO12235

Product Information

Application	WB, IHC-P
Primary Accession	O15528
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for 25-hydroxyvitamin D-1 alpha hydroxylase, mitochondrial (CYP27B1) 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	1594
Other Names	25-hydroxyvitamin D-1 alpha hydroxylase, mitochondrial, 1.14.15.18, 25-OHD-1 alpha-hydroxylase, 25-hydroxyvitamin D(3) 1-alpha-hydroxylase, VD3 1A hydroxylase, Calcidiol 1-monooxygenase, Cytochrome P450 subfamily XXVIIB polypeptide 1, Cytochrome P450C1 alpha, Cytochrome P450VD1-alpha, Cytochrome p450 27B1, CYP27B1, CYP1ALPHA, CYP27B
Calculated MW	56504
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Rat, By Heat Western blot, 0.1-0.5 □g/ml, Human, Mouse, Rat
Subcellular Localization	Mitochondrion membrane.
Tissue Specificity	Kidney.
Source	Eukaryota
Protein Name	25-hydroxyvitamin D-1 alpha hydroxylase, mitochondrial
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human CYP27B1 (475-508aa HFEVQPEPGAAPVRPKTRTVLVPERSINLQFLDR), different from the related mouse and rat sequences by six 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.

Protein Information

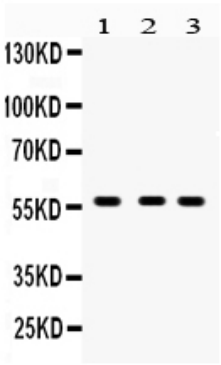
Name	CYP27B1
Synonyms	CYP1ALPHA, CYP27B
Function	A cytochrome P450 monooxygenase involved in vitamin D metabolism and in calcium and phosphorus homeostasis. Catalyzes the rate-limiting step in the activation of vitamin D in the kidney, namely the hydroxylation of 25-hydroxyvitamin D3/calcidiol at the C1alpha- position to form the hormonally active form of vitamin D3, 1alpha,25- dihydroxyvitamin D3/calcitriol that acts via the vitamin D receptor (VDR) (PubMed:10518789, PubMed:10566658, PubMed:12050193, PubMed:22862690, PubMed:9486994). Has 1alpha-hydroxylase activity on vitamin D intermediates of the CYP24A1-mediated inactivation pathway (PubMed:10518789, PubMed:22862690). Converts 24R,25-dihydroxyvitamin D3/secalciferol to 1-alpha,24,25-trihydroxyvitamin D3, an active ligand of VDR. Also active on 25-hydroxyvitamin D2 (PubMed:10518789). 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 FDXR/adrenodoxin reductase and FDX1/adrenodoxin (PubMed:22862690).
Cellular Location	Mitochondrion membrane.
Tissue Location	Kidney.

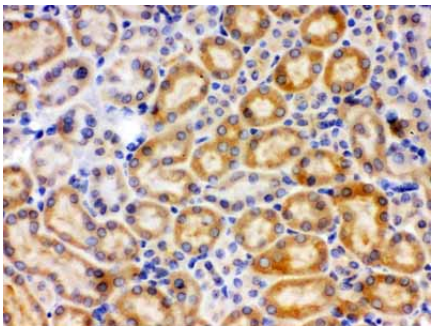
Background

CYP27B1 belongs to the cytochrome P450 superfamily of enzymes. The cytochrome P450 proteins are monooxygenases which catalyze many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids. The protein encoded by this gene localizes to the inner mitochondrial membrane where it hydroxylates 25-hydroxyvitamin D3 at the 1alpha position. This reaction synthesizes 1alpha,25-dihydroxyvitamin D3, the active form of vitamin D3, which binds to the vitamin D receptor and regulates calcium metabolism. Thus this enzyme regulates the level of biologically active vitamin D and plays an important role in calcium homeostasis. Mutations in this gene can result in vitamin D-dependent rickets type I.

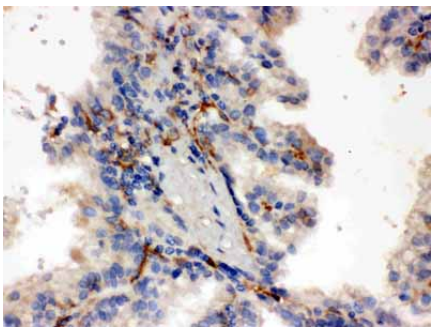
Images

Anti-CYP27B1 Picoband antibody, ABO12235, Western blottingAll lanes: Anti CYP27B1 (ABO12235) at 0.5ug/mlLane 1: Rat Kidney Tissue Lysate at 50ugLane 2: Mouse Kidney Tissue Lysate at 50ugLane 3: 293T Whole Cell Lysate at 40ugPredicted bind size: 57KDObserved bind size: 57KD





Anti-CYP27B1 Picoband antibody, ABO12235, IHC(P)IHC(P): Rat Kidney Tissue



Anti-CYP27B1 Picoband antibody, ABO12235, IHC(P)IHC(P): Human Kidney Cancer Tissue

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