

Anti-CYP27B1 Picoband Antibody
Catalog # ABO12235**Specification**

Anti-CYP27B1 Picoband Antibody - Product Information

Application	WB, IHC
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.

Anti-CYP27B1 Picoband Antibody - 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 XXVIIIB polypeptide 1, Cytochrome P450C1 alpha, Cytochrome P450VD1-alpha, Cytochrome p450 27B1, CYP27B1, CYP1ALPHA, CYP27B

Calculated MW

56504 MW KDa

Application Details

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

Subcellular Localization

Mitochondrion membrane.

Tissue Specificity

Kidney.

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

HFEVQPEPGAAPVRPKTRTVLPERSINLQFLDR), 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 reconstitution, 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-CYP27B1 Picoband Antibody - 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

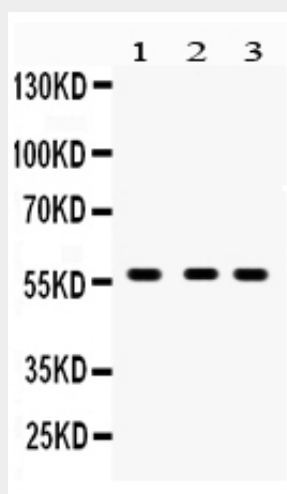
Kidney.

Anti-CYP27B1 Picoband Antibody - Protocols

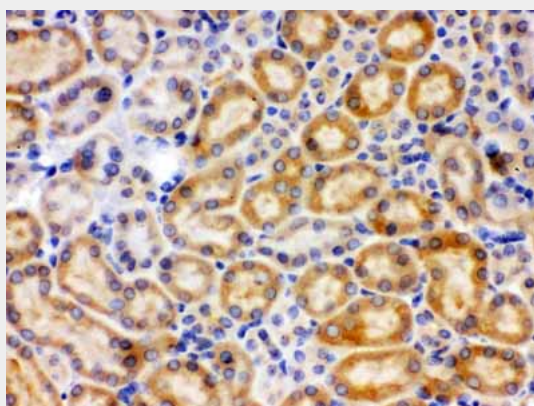
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

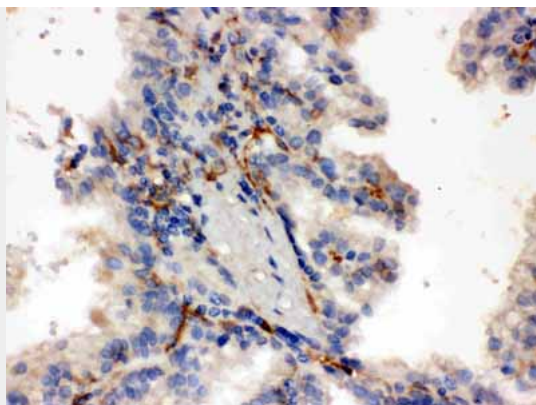
Anti-CYP27B1 Picoband Antibody - Images



Anti-CYP27B1 Picoband antibody, ABO12235, Western blotting All lanes: Anti CYP27B1 (ABO12235) at 0.5ug/ml Lane 1: Rat Kidney Tissue Lysate at 50ug Lane 2: Mouse Kidney Tissue Lysate at 50ug Lane 3: 293T Whole Cell Lysate at 40ug Predicted bind size: 57KD Observed 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

Anti-CYP27B1 Picoband Antibody - 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 1 α position. This reaction synthesizes 1 α ,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.