

CYP27B1 Antibody (C-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP9056B

Specification

CYP27B1 Antibody (C-term) - Product Information

Application	WB, IHC-P, FC,E
Primary Accession	O15528
Reactivity	Human, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Antigen Region	482-508

CYP27B1 Antibody (C-term) - Additional Information

Gene ID 1594

Other Names

25-hydroxyvitamin D-1 alpha hydroxylase, mitochondrial, 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

Target/Specificity

This CYP27B1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 482-508 amino acids from the C-terminal region of human CYP27B1.

Dilution

WB~~1:2000
IHC-P~~1:10~50
FC~~1:25

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

CYP27B1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

CYP27B1 Antibody (C-term) - 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.

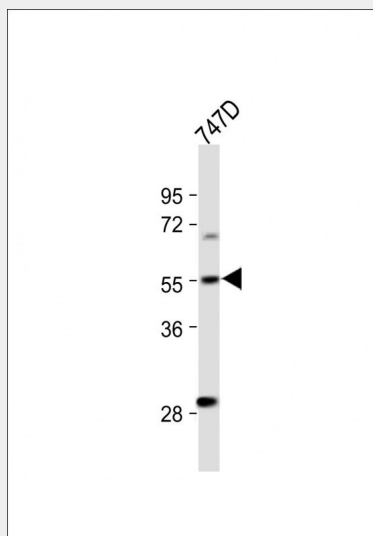
Tissue Location

Kidney.

CYP27B1 Antibody (C-term) - Protocols

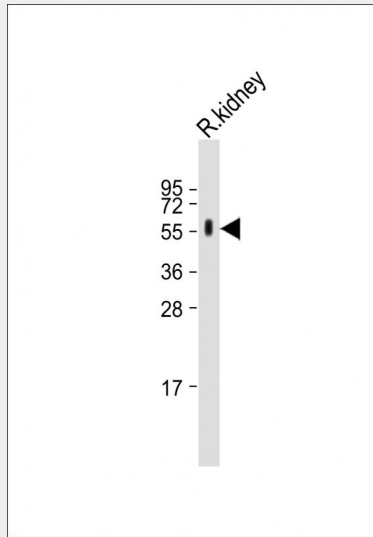
Provided below are standard protocols that you may find useful for product applications.

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

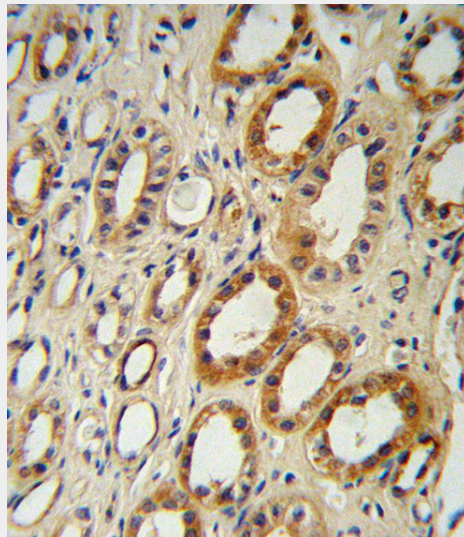
CYP27B1 Antibody (C-term) - Images

All lanes : Anti-CYP27B1 Antibody (C-term) at 1:500 dilution Lane 1: T47D whole cell lysate

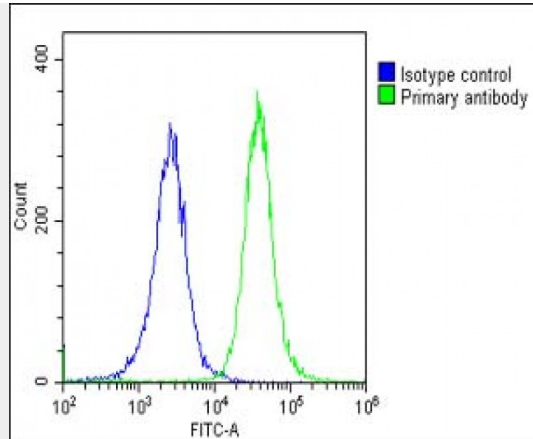
Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 57 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Anti-CYP27B1 Antibody (C-term) at 1:2000 dilution + Rat kidney whole tissue lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 57 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



CYP27B1 Antibody (C-term) (Cat. #AP9056B) immunohistochemistry analysis in formalin fixed and paraffin embedded human kidney tissue followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of CYP27B1 Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.



Overlay histogram showing Hela cells stained with AP9056b (green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then incubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AP9056b, 1:25 dilution) for 60 min at 37°C. The secondary antibody used was Goat-Anti-Rabbit IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed (OE188374) at 1/200 dilution for 40 min at 37°C. Isotype control antibody (blue line) was rabbit IgG1 (1µg/1x10⁶ cells) used under the same conditions. Acquisition of >10,000 events was performed.

CYP27B1 Antibody (C-term) - Background

CYP27B1 is a member of 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 1α position. This reaction synthesizes 1α,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.

CYP27B1 Antibody (C-term) - References

Simon, K.C., et al., *Mult. Scler.* 16 (2), 133-138 (2010)
Zhou, S., et al., *Endocrinology* 151 (1), 14-22 (2010)

CYP27B1 Antibody (C-term) - Citations

- [25\(OH\)D Is Effective to Repress Human Cholangiocarcinoma Cell Growth through the Conversion of 25\(OH\)D to 1α,25\(OH\)₂D₃.](#)
- [Reduced sinonasal levels of 1α-hydroxylase are associated with worse quality of life in chronic rhinosinusitis with nasal polyps.](#)
- [Antenatal endotoxin disrupts lung vitamin D receptor and 25-hydroxyvitamin D 1α-hydroxylase expression in the developing rat.](#)