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CYP2R1 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7894C

Product Information

Application	WB, IHC-P, E
Primary Accession	Q6VVX0
Reactivity	Human, Mouse
Predicted	Rat, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB15785
Calculated MW	57359
Antigen Region	152-180

Additional Information

Gene ID	120227
Other Names	Vitamin D 25-hydroxylase, Cytochrome P450 2R1, CYP2R1
Target/Specificity	This CYP2R1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 152-180 amino acids from the Central region of human CYP2R1.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	CYP2R1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CYP2R1
Function	A cytochrome P450 monooxygenase involved in activation of vitamin D precursors. Catalyzes hydroxylation at C-25 of both forms of vitamin D, vitamin D(2) and D(3) (calciol) (PubMed:12867411, PubMed:15465040, PubMed:18511070). Can metabolize vitamin D analogs/prodrugs

1alpha-hydroxyvitamin D(2) (doxercalciferol) and 1alpha-hydroxyvitamin D(3) (alfacalcidol) forming 25-hydroxy derivatives (PubMed:15465040, PubMed:18511070). 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) (PubMed:12867411, PubMed:15465040, PubMed:18511070).

Cellular Location Endoplasmic reticulum membrane; Peripheral membrane protein. Microsome membrane; Peripheral membrane protein

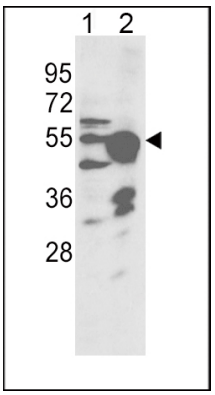
Background

CYP2R1 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. This enzyme is a microsomal vitamin D hydroxylase that converts vitamin D into the active ligand for the vitamin D receptor. A mutation in CYP2R1 gene has been associated with selective 25-hydroxyvitamin D deficiency.

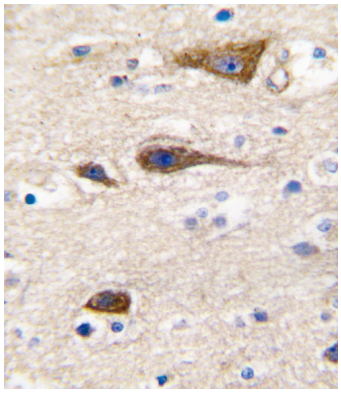
References

Ramos-Lopez,E., Diabetes Obes Metab 10 (8), 683-685 (2008)
Strushkevich,N., J. Mol. Biol. 380 (1), 95-106 (2008)
Ramos-Lopez,E., Diabetes Metab. Res. Rev. 23 (8), 631-636 (2007)
Nelson,D.R., Pharmacogenetics 14 (1), 1-18 (2004)

Images



Western blot analysis of CYP2R1 Antibody (Center) (Cat.#AP7894c) in NCI-H460 cell line(lane 1) and mouse liver tissue(lane 2) lysates (35ug/lane). CYP2R1 (arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human brain tissue reacted with CYP2R1 antibody (Center), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

Citations

- Role of the Drug-Metabolizing Enzyme CYP during Mouse Liver Development.

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