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CYP24A1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP21358a

Product Information

Application	WB, E
Primary Accession	Q07973
Reactivity	Human
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit IgG
Clone Names	RB52825
Calculated MW	58875

Additional Information

Gene ID	1591
Other Names	25-dihydroxyvitamin D(3) 24-hydroxylase, mitochondrial, 24-OHase, Vitamin D(3) 24-hydroxylase, Cytochrome P450 24A1, Cytochrome P450-CC24, CYP24A1, CYP24
Target/Specificity	This CYP24A1 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 34-64 amino acids from the N-terminal region of human CYP24A1.
Dilution	WB~~1:2000 E~~Use at an assay dependent concentration.
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	CYP24A1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CYP24A1 (HGNC:2602)
Synonyms	CYP24
Function	A cytochrome P450 monooxygenase with a key role in vitamin D catabolism and calcium homeostasis. Via C24- and C23-oxidation pathways, catalyzes the

inactivation of both the vitamin D precursor calcidiol (25-hydroxyvitamin D(3)) and the active hormone calcitriol (1-alpha,25-dihydroxyvitamin D(3)) (PubMed:11012668, PubMed:15574355, PubMed:16617161, PubMed:24893882, PubMed:29461981, PubMed:8679605). With initial hydroxylation at C-24 (via C24-oxidation pathway), performs a sequential 6-step oxidation of calcitriol leading to the formation of the biliary metabolite calcitroic acid (PubMed:15574355, PubMed:24893882). With initial hydroxylation at C-23 (via C23-oxidation pathway), catalyzes sequential oxidation of calcidiol leading to the formation of 25(OH)D3-26,23-lactone as end product (PubMed:11012668, PubMed:8679605). Preferentially hydroxylates at C-25 other vitamin D active metabolites, such as CYP11A1-derived secosteroids 20S- hydroxycholecalciferol and 20S,23-dihydroxycholecalciferol (PubMed:25727742). 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:8679605).

Cellular Location Mitochondrion {ECO:0000250|UniProtKB:Q09128}.

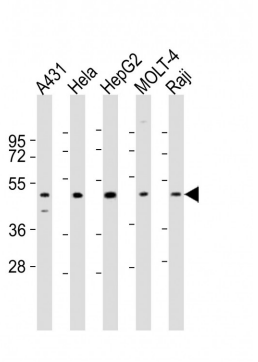
Background

Has a role in maintaining calcium homeostasis. Catalyzes the NADPH-dependent 24-hydroxylation of calcidiol (25- hydroxyvitamin D(3)) and calcitriol (1-alpha,25-dihydroxyvitamin D(3)). The enzyme can perform up to 6 rounds of hydroxylation of calcitriol leading to calcitroic acid. It also shows 23-hydroxylating activity leading to 1-alpha,25-dihydroxyvitamin D(3)-26,23-lactone as end product.

References

Chen K.-S.,et al.Proc. Natl. Acad. Sci. U.S.A. 90:4543-4547(1993).
Ren S.,et al.J. Biol. Chem. 280:20604-20611(2005).
Deloukas P.,et al.Nature 414:865-871(2001).
Chen K.-S.,et al.Biochim. Biophys. Acta 1263:1-9(1995).
Labuda M.,et al.J. Bone Miner. Res. 8:1397-1406(1993).

Images



All lanes : Anti-CYP24A1 Antibody (N-term) at 1:2000 dilution Lane 1: A431 whole cell lysates Lane 2: Hela whole cell lysates Lane 3: HepG2 whole cell lysates Lane 4: MOLT-4 whole cell lysates Lane 5: Raji whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 59 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

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