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Aromatase (CYP19A1) Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7293c

Product Information

Application	WB, E
Primary Accession	P11511
Other Accession	Q29605
Reactivity	Human
Predicted	Rabbit, Mouse, Rat, Bovine, Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB14619
Calculated MW	57883
Antigen Region	221-253

Additional Information

Gene ID	1588
Other Names	Aromatase, CYPXIX, Cytochrome P-450AROM, Cytochrome P450 19A1, Estrogen synthase, CYP19A1, ARO1, CYAR, CYP19
Target/Specificity	This Aromatase (CYP19A1) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 221-253 amino acids from the Central region of human Aromatase (CYP19A1).
Dilution	WB~~1:1000 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	Aromatase (CYP19A1) Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CYP19A1 {ECO:0000303|PubMed:24705274, ECO:0000312|HGNC:HGNC:2594}
Function	A cytochrome P450 monooxygenase that catalyzes the conversion of C19

	androgens, androst-4-ene-3,17-dione (androstenedione) and testosterone to the C18 estrogens, estrone and estradiol, respectively (PubMed:27702664, PubMed:2848247). Catalyzes three successive oxidations of C19 androgens: two conventional oxidations at C19 yielding 19-hydroxy and 19-oxo/19-aldehyde derivatives, followed by a third oxidative aromatization step that involves C1-beta hydrogen abstraction combined with cleavage of the C10-C19 bond to yield a phenolic A ring and formic acid (PubMed:20385561). Alternatively, the third oxidative reaction yields a 19-norsteroid and formic acid. Converts dihydrotestosterone to delta1,10-dehydro 19- nordihydrotestosterone and may play a role in homeostasis of this potent androgen (PubMed:22773874). Also displays 2-hydroxylase activity toward estrone (PubMed:22773874). 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:20385561, PubMed:22773874).
Cellular Location	Endoplasmic reticulum membrane; Multi-pass membrane protein. Microsome membrane; Multi- pass membrane protein
Tissue Location	Widely expressed, including in adult and fetal brain, placenta, skin fibroblasts, adipose tissue and gonads

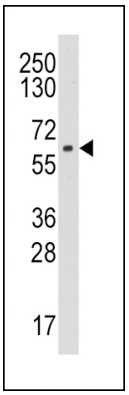
Background

CYP19A1 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 protein localizes to the endoplasmic reticulum and catalyzes the last steps of estrogen biosynthesis, three successive hydroxylations of the A ring of androgens. Mutations in this gene can result in either increased or decreased aromatase activity; the associated phenotypes suggest that estrogen functions both as a sex steroid hormone and in growth or differentiation.

References

Ikeda,S.,Am. J. Gastroenterol. 103 (6), 1476-1487 (2008)
Dos Santos,(er) DNA Cell Biol. (2008) In press
Nelson,Pharmacogenetics 14 (1), 1-18 (2004)

Images



Western blot analysis of anti-CYP19A1(Center) Pab (Cat.#AP7293c) in HL60 cell line lysates (35ug/lane). CYP19A1(arrow) was detected using the purified Pab.

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