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Aromatase Rabbit pAb

Catalog # AP99510

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	P11511
Other Accession	P11511
Reactivity	Rat, Human, Mouse
Predicted	Pig, Rabbit, Dog, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	57883
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Aromatase
Epitope Specificity	51-150/503
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the cytochrome P450 family.
DISEASE	Defects in CYP19A1 are a cause of aromatase excess syndrome (AEXS) [MIM:139300]; also known as familial gynecomastia. AEXS is characterized by an estrogen excess due to an increased aromatase activity. Defects in CYP19A1 are the cause of aromatase deficiency (AROD) [MIM:613546]. AROD is a rare disease in which fetal androgens are not converted into estrogens due to placental aromatase deficiency. Thus, pregnant women exhibit a hirsutism, which spontaneously resolves after post-partum. At birth, female babies present with pseudohermaphroditism due to virilization of extern genital organs. In adult females, manifestations include delay of puberty, breast hypoplasia and primary amenorrhoea with multicystic ovaries.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Aromatase is a key enzyme in steroidogenesis and plays an important role in sexual differentiation, oestrogen biosynthesis, fertility and carcinogenesis. It is highly conserved amongst mammals, and is highly expressed in placental tissue. Many environmental chemicals may influence aromatase activity and thereby disrupt endocrine function.

Additional Information

Gene ID	1588
Other Names	ARO; ARO1; CPV1; CYAR; CYP19; CYPXIX; P-450AROM; Ar; ArKO; Int-5; Int5; p450arom; Aromatase; Cyp19a; CP19A_HUMAN; CYP19A1; Cytochrome P-450AROM; Cytochrome P450 19A1; Estrogen synthase; 1.14.14.14; CP19A_MOUSE; Arom; cytochrome P450 family 19 subfamily A member 1; cytochrome P450, subfamily XIX (aromatization of androgens); cytochrome P450, family 19, subfamily A, polypeptide 1

Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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

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