abcam

ab215443

Anti-Aromatase antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.02% Proclin 300 Constituents: 50% Glycerol (glycerin, glycerine), 48.98% TBS, 1X, 1% BSA
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human CYP19A1 aa 50-150 conjugated to Keyhole Limpet Haemocyanin. The exact immunogen used to generate this antibody is proprietary information. Database link P11511
Purification technique	Affinity purification Protein A
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Rat
Dilution info	1/100 - 1/500
Notes	-

Species	Human
Dilution info	1/100 - 1/500

Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Rat
Dilution info	-
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information CYP19A1

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).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Aromatase also known as CYP19A is an enzyme responsible for the conversion of androgens into estrogens. It is a member of the cytochrome P450 superfamily and has a molecular mass of approximately 58 kDa. Aromatase is mainly expressed in the gonads brain adipose tissue and placenta. The activity of this enzyme is important for estrogen biosynthesis which is especially important in postmenopausal women where adipose tissue becomes an important estrogen source.
Biological function summary	The enzyme catalyzes the aromatization of androgens aiding in the production of estrogens like estradiol. This process is essential for maintaining estrogen levels in the human body. Aromatase operates as a monomer and does not form part of any larger complex. The balance of androgens and estrogens maintained by aromatase activity plays a significant role in reproductive functions and other physiological processes.
Pathways	Aromatase enzyme activity plays a pivotal role in the steroidogenesis pathway which involves the biosynthesis of steroid hormones. It is also a part of the estrogen signaling pathway interacting with other proteins like estrogen

receptors. These pathways help regulate gene expression and are important in processes such as cell proliferation and differentiation linking aromatase function to broader metabolic and developmental effects.

Associated diseases and disorders

Aromatase has a significant role in conditions such as hormone receptor-positive breast cancer and endometriosis. In breast cancer increased aromatase activity elevates estrogen levels promoting cancer cell growth. Anti-aromatase drugs like aromatase inhibitors target this enzyme to lower estrogen production. Additionally defects in aromatase activity can lead to disorders like aromatase deficiency resulting in an imbalance in sex hormone levels. Understanding its function aids in the development of therapies targeting proteins like the estrogen receptor which interacts with products of aromatase activity.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

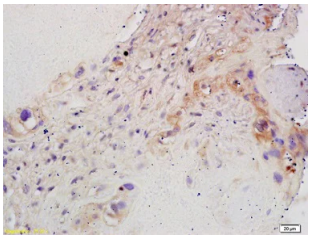
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
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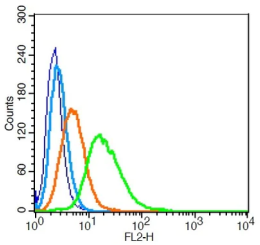
3 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aromatase antibody (ab215443)

Aromatase Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Aromatase antibody

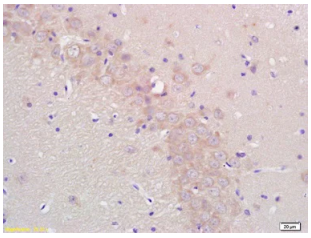
Immunohistochemical analysis of formalin-fixed, paraffin-embedded Human placenta tissue labeling Aromatase with ab215443 at 1/200 dilution, followed by conjugation to the secondary antibody and DAB staining.



Flow Cytometry (Intracellular) - Anti-Aromatase antibody (ab215443)

Aromatase Flow Cytometry (Intracellular) staining using rabbit Anti-Aromatase antibody

Intracellular flow cytometric analysis of RSC96 cells labeling Aromatase with ab215443 at 1/20 dilution for 30 minutes followed by incubation with a conjugated secondary (PE Conjugated) (green) for 30 minutes compared to control cells (blue), secondary only (light blue) and isotype control (orange).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aromatase antibody (ab215443)

Aromatase Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Aromatase antibody

Immunohistochemical analysis of formalin-fixed, paraffin-embedded rat brain tissue labeling Aromatase with ab215443 at 1/200 dilution, followed by conjugation to the secondary antibody and DAB staining.

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