

Rabbit CYP1A1 Polyclonal Antibody | anti-CYP1A1 antibody

Anti-CYP1A1 Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA11667	Rabbit	Human, Mouse, Rat	Western Blot, Immunohistochemistry, Immunohistochemistry, Immunocytochemistry, Flow Cytometry, Functional Assay

PRODUCT SYNONYMS

CYP1A1; Polyclonal Antibody; Anti-CYP1A1 Antibody; Cytochrome P450 1A1; AHH; AHRR; Aryl hydrocarbon hydroxylase; CP 11; CP11; CP1A1_HUMAN; CYP 1; CYP1; CYP1A1; Cytochrome P1 450 dioxin inducible; Cytochrome P1-450; Cytochrome P1-450 dioxin-inducible; Cytochrome P450 family 1 subfamily A polypeptide 1; Cytochrome P450 form 6; Cytochrome P450 subfamily I (aromatic compound inducible) polypeptide 1; Cytochrome P450 subfamily I aromatic compound inducible polypeptide 1; Cytochrome P450-C; Cytochrome P450-P1; Flavoprotein-linked monooxygenase; Microsomal monooxygenase; P1 450; P450 C; P450 form 6; P450 P1; P450DX; Xenobiotic monooxygenase; cytochrome P450; family 1; subfamily A; polypeptide 1; anti-CYP1A1 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	No cross reactivity with other proteins.
Purity/Purification	Immunogen Affinity Purified
Form/Format	Lyophilized. Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Sequence Length	512
Applicable Applications for anti-CYP1A1 antibody	WB (Western Blot), IHC (Immunohistochemistry), IHC (Immunohistochemistry), ICC (Immunocytochemistry), FCM/FACS (Flow Cytometry)
Application Notes	WB: Concentration: 0.1-0.5ug/ml; Tested Species: Human Mouse, Rat IHC-P: Concentration: 0.5-1ug/ml; Tested Species: Human, Mouse, Rat; Antigen Retrieval: By Heat IHC-F: Concentration: 0.5-1ug/ml; Tested Species: Human, Mouse ICC/IF: Concentration: 2 ug/ml; Tested Species: Human FC: Concentration: 1-3ug/1x10⁶ cells; Tested Species: Human. Tested Species: In house tested species with positive results. By heat: Boiling the paraffin section 10mM citrate buffer, pH6.0 for 20mins is required for the staining of formalin/paraffin sections. Other applications have not been tested. Optimal dilutions should be determined by end user.
Immunogen	E Coli-derived human CYP1A1 recombinant protein (Position: H183-D320). Human CYP1A1 shares 81.2% amino acid (aa) sequence identity with both mouse and rat CYP1A1.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.
Relevant Detection Systems	It is recommended for Enhanced Chemiluminescent Kit with anti-Rabbit IgG (please inquire) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (please inquire) for IHC(P), IHC(F) and ICC.
Preparation and Storage	Store at -20 degrees C for one year, at 4 degrees C for one month. Avoid repeated freezing and thawing.



FCM (Flow Cytometry)

Figure 9. Flow Cytometry analysis of K562 cells using anti-CYP1A1 antibody (AAA11667).Overlay histogram showing K562 cells stained with AAA11667 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-CYP1A1 Antibody (AAA11667,1ug/1x10⁶ cells) for 30 min at 20 degree C. DyLight®488 conjugated goat anti-rabbit IgG (5-10ug/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20 degree C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



FCM (Flow Cytometry)

Figure 8. Flow Cytometry analysis of Hela cells using anti-CYP1A1 antibody (AAA11667).Overlay histogram showing Hela cells stained with AAA11667 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-CYP1A1 Antibody (AAA11667,1ug/1x10⁶ cells) for 30 min at 20 degree C. DyLight®488 conjugated goat anti-rabbit IgG (5-10ug/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20 degree C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



FCM (Flow Cytometry)

Figure 7. Flow Cytometry analysis of CACO-2 cells using anti-CYP1A1 antibody (AAA11667).Overlay histogram showing CACO-2 cells stained with AAA11667 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-CYP1A1 Antibody (AAA11667,1ug/1x10⁶ cells) for 30 min at 20 degree C. DyLight®488 conjugated goat anti-rabbit IgG (5-10ug/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20 degree C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



IHC (Immunohistochemistry)

Figure 6. IHC analysis of CYP1A1 using anti-CYP1A1 antibody (AAA11667).CYP1A1 was detected in frozen section of Human Placenta Tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-CYP1A1 Antibody (AAA11667) overnight at 4 degree C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.



IHC (Immunohistochemistry)

Figure 5. IHC analysis of CYP1A1 using anti-CYP1A1 antibody (AAA11667).CYP1A1 was detected in frozen section of Mouse Kidney Tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-CYP1A1 Antibody (AAA11667) overnight at 4 degree C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.



IHC (Immunohistochemistry)

Figure 4. IHC analysis of CYP1A1 using anti-CYP1A1 antibody (AAA11667).CYP1A1 was detected in paraffin-embedded section of Human Mammary Cancer Tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-CYP1A1 Antibody (AAA11667) overnight at 4 degree C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.

ADDITIONAL INFORMATION

Related Product Information for anti-CYP1A1 antibody	CYP1A1 is involved in phase I xenobiotic and drug metabolism (one substrate of it is theophylline). It is inhibited by fluoroquinolones and macrolides and induced by aromatic hydrocarbons. CYP1A1 is also known as AHH (aryl hydrocarbon hydroxylase). It is involved in the metabolic activation of aromatic hydrocarbons (polycyclic aromatic hydrocarbons, PAH), for example, benzo(a)pyrene (BP), by transforming it to an epoxide. In this reaction, the oxidation of benzo[a]pyrene is catalysed by CYP1A1 to form BP-7,8-epoxide, which can be further oxidized by epoxide hydrolase (EH) to form BP-7,8-dihydrodiol. Finally CYP1A1 catalyses this intermediate to form BP-7,8-dihydrodiol-9,10-epoxide, which is the ultimate carcinogen. However, an in vivo experiment with gene-deficient mice has found that the hydroxylation of benzo(a)pyrene by CYP1A1 can have an overall protective effect on the DNA, rather than contributing to potentially carcinogenic DNA modifications. This effect is likely due to the fact that CYP1A1 is highly active in the intestinal mucosa, and thus inhibits infiltration of ingested benzo(a)pyrene carcinogen into the systemic circulation.
References	1. Beresford AP (1993). "CYP1A1: friend or foe?". Drug Metabolism Reviews 25 (4): 503-17. 2. Uno, S (2004). "Oral exposure to benzo[a]pyrene in the mouse: detoxication by inducible cytochrome P450 is more important than metabolic activation.". Mol Pharmacol 65 (5): 1225-37.

NCBI AND UNIPROT INFORMATION

NCBI GI #	4503199
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NCBI GeneID	1543
NCBI Accession #	NP_000490.1
NCBI GenBank Nucleotide #	NM_000499.4
UniProt Accession #	P04798 ; Q53G18 ; A4F3V9 ; A4F3W0
NCBI Official Full Name	cytochrome P450 1A1 isoform 1
NCBI Official Synonym Full Names	cytochrome P450 family 1 subfamily A member 1
NCBI Official Symbol	CYP1A1
NCBI Official Synonym Symbols	AHH; AHRR; CP11; CYP1; CYP1A1; P1-450; P450-C; P450DX
NCBI Protein Information	cytochrome P450 1A1
UniProt Protein Name	Cytochrome P450 1A1
UniProt Gene Name	CYP1A1
UniProt Entry Name	CP1A1_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com

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