ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

CYTOCHROME P450 (CYP1B1) Antibodies

Cat. CYP1B11-S	Rabbit Anti-Human CYP1B1 antiserum # 1	**SIZE**: 100 ul
Cat. CYP1B11-A	Rabbit Anti-Human CYP1B1 (aff pure) IgG # 1	**SIZE**: 100 ug
Cat. CYP1B11-P	Human CYP1B1 Control peptide #1	**SIZE**: 100 ug

Cytochrome P450 (P450 or CYP) enzymes, a superfamily of *b*-type heme-containing proteins found in organisms from all domains of life, are major catalysts in the oxidative transformation of a diversity of endogenous and exogenous compounds. CYP enzymes play an important role in the metabolic activation of environmental procarcinogens or chemical carcinogenesis, these enzymes are monooxygenases which catalyze many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids. The enzyme localizes to the endoplasmic reticulum and metabolizes procarcinogens such as polycyclic aromatic hydrocarbons and 17beta-estradiol. Mutations in this gene have been associated with primary congenital glaucoma; therefore it is thought that the enzyme also metabolizes a signaling molecule involved in eye development, possibly a steroid.

CYP1B1 (Cytochrome P450 family 1, subfamily B, polypeptide 1) a 543aa enzyme in mouse, rat and human(chr:2p22) belongs to a multigene superfamily of monomeric mixed-function monooxygenases, responsible for the phase 1 metabolism of a wide range of structurally diverse substrates by inserting 1 atom of atmospheric oxygen into the substrate molecule, thereby creating a new functional group (e.g., -OH, -NH2, -COOH). This enzyme is involved in an NADH-Dependent electron transport pathway, It oxidizes a variety of structurally unrelated compounds and participates in the metabolism of an as-yet unknown biologically active molecule that is a participant in eye development. Cyp1B1 is expressed in many tissues, Defects in Cyp1B1 causes primary congenital Glaucoma, this recessive disease is characterized by large ocular globes resulting from increased intraocular pressure.

Source of Antigen and Antibodies

Antigen	14-aa peptide of Human CYP1B1 (accession #Q16678; **Designated (#CYP1B11-P or control peptide)** conjugated to KLH; epitope location ~ C-terminus
Ab Host/type	Rabbit, polyclonal, antiserum # **(#CYP1B11-S**) Aff pure IgG (**cat # CYP1B11-A**) purified over antigen-agarose column
2-ab	Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
00ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage
Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.
Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1-10 ug/ml for affinity pure using ECL). (see published refs using this antibody in 2)..

ELISA (1:100K; using 50-100 ng control peptide/well).

Histochemistry & Immunofluorescence: we recommend the use of affinity purified antibody at 2-20 ug/ml in formaldehyde fixed tissue. (see published refs using this antibody in 2).

Specificity & Cross-reactivity

Human CYP1B11-P sequence is 92% conserved in chimp protein. It is only 35% conserved in mouse/rat Cyp1B1. ADI has made # CPYP1b12-A that is suitable for mouse CYP1B1. Antibody crossreactivity in all various is not established. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at the web site).

General References: Tang, Y. M et al (1996) JBC Vol.271, No: 45, 28324-28330; Bejjani, B. A et al (1998) Am J of Human genetics Vol. 62 (2), 325-333; Leying Zhang et al (1998) JBC, 273, 5174-5183.

2. Citations of for ADI Antibodies (see updates at the web site)

Tsuchiya Y, 2004, Cancer Res.,64: 3119, IHC
Ragavan N, 2004, Cancer Lett 215, 69-78, IHC
Scallet AC, 2005, J. Chem. Neuroanatomy, 29, 71-80, WB IHC

*This product is for in vitro research use only.

Some New Antibodies from ADI...

CYP26A1, CYP1B1 antibodies

CYP1B11-S-A-P 71217A

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