

Product Specification Sheet

**CYTOCHROME P450 (CYP1B1) Antibodies**

|                       |                                             |                     |
|-----------------------|---------------------------------------------|---------------------|
| <b>Cat. CYP1B11-S</b> | Rabbit Anti-Human CYP1B1 antiserum # 1      | <b>SIZE:</b> 100 ul |
| <b>Cat. CYP1B11-A</b> | Rabbit Anti-Human CYP1B1 (aff pure) IgG # 1 | <b>SIZE:</b> 100 ug |
| <b>Cat. CYP1B11-P</b> | Human CYP1B1 Control peptide #1             | <b>SIZE:</b> 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, -NH<sub>2</sub>, -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**

|                     |                                                                                                                                                      |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Antigen</b>      | 14-aa peptide of Human CYP1B1 (accession #Q16678; <b>Designated (#CYP1B11-P or control peptide)</b> conjugated to KLH; epitope location ~ C-terminus |
| <b>Ab Host/type</b> | Rabbit, polyclonal, antiserum # (#CYP1B11-S) Aff pure IgG (cat # CYP1B11-A) purified over antigen-agarose column                                     |
| <b>2-ab</b>         | Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)                                                                         |
| <b>-ve control</b>  | # 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 1 mg/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 -200C 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

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, S an Antonio, T X 7 8 24 4 , U S A ;

**India Contact:**

**Life Technologies (India) Pvt. Ltd.**

306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400 Fax: +91-11-42208444 Email: [customerservice@lifetechindia.com](mailto:customerservice@lifetechindia.com) Website: [www.lifetechindia.com](http://www.lifetechindia.com)