

DNA DRUG REACTION PROFILE TEST RESULTS  
Cytochrome P450 1A2 Test

Genelex Laboratory #      **PG-XXXX CRM #####**      Report Date:      February 11, 2008

**Patient Name:**      **John Doe**      Race:      UK      Collection Date:      January 20, 2008

**Phenotype Interpretation:**      **Hyper-Induction**

**Cytochrome P450 1A2 genotype:**      **CYP 1A2 \*1A/\*1F**

Final results reviewed and released by: Kristen K. Reynolds, PhD

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**Laboratory Test Interpretive Comments:**

CYP1A2 is a metabolic enzyme that can be induced by several medications, substrates, and constituents of tobacco smoke. Basal metabolic capacity remains relatively consistent among the different genotypes in the absence of an inducer.

**Normal Induction** represents the norm for induction of metabolic activity in the presence of an inducer. Genotypes consistent with the normal induction phenotype include two CYP1A2 \*1A alleles.

**Diminished Induction** represents a lower than normal level of induction in the presence of an inducer. Genotypes consistent with the diminished induction phenotype are those with either one or two CYP1A2\*1C alleles.

**Hyperinduction** represents a higher than normal level of induction in the presence of an inducer. Induction may be approximately 40% higher in these patients than in those with the normal induction phenotype. Genotypes consistent with the hyperinduction phenotype include one or two CYP1A2\*1F alleles. Patients with this phenotype may require an increased dosage of CYP1A2 substrates due to higher than normal rates of drug metabolism in the presence of an inducer.

**Laboratory Cytochrome P450 1A2 alleles tested:**

Reference allele: CYP1A2 \*1A

Diminished induction allele: CYP1A2 \*1C

Hyperinduction allele: CYP1A2 \*1F

Analytical specificity and sensitivity for detection of these mutations are >99%. Other known variants not listed are not detected.

*Note: This is a list of all tested markers and is no indication of your genetic profile.*

*Your genotype in the box above lists all active and inactive alleles found during testing of your sample.*

Laboratory specimens were analyzed using a method developed by the Pharmacogenetics Diagnostic Laboratory which detects two nucleotide variants by polymerase chain reaction and restriction fragment length polymorphism analysis.

**Do not alter the dosage amount or schedule of any drug you are taking  
without first consulting your doctor or pharmacists.**

Genelex Corporation is Washington State Medical Test Site No. MTS-3919 CLIA No. 50D0980559, accredited by the American Association of Blood Banks in DNA parentage testing since 1992. Genelex complies with United States Food and Drug Administration regulations covering Good Laboratory (GLP) and Good Manufacturing (GMP) Practices and has contributed to the validation of National Institute of Standards and Technology (NIST) Standard Reference Materials. Cytochrome P450 testing was performed at the Pharmacogenetics Diagnostic Laboratory, LLC. 201 E. Jefferson Street, Suite 309, Louisville, KY 40202.

**References:**

Hamdy SI et al. Genotyping of four genetic polymorphisms in the CYP1A2 gene in the Egyptian population. Br J Clin Pharmacol 2003;55:321-4.

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Kirchheiner J et al. Pharmacogenetics of antidepressants and antipsychotics: the contribution of allelic variations to the phenotype of drug response. Mol Psychiatry 2004;9: 442-73.

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