



iPGX Test

Medication. Personalized

Genome Shield

DNA for a Better Life

Pharmacogenomics Testing





Medication: Right Drug, Right Dose, Right Time

Not everyone responds to drugs in the same manner. A drug that is effective for some can have lack of efficacy or have Adverse Drug Reactions in others.

The way a person responds to a drug depends on various factors, the major influencer being the genetic makeup of the person. Genetic factors account for up to 95% of drug-response variability and susceptibility.

Depending on his genes, a person's body may break down a drug too slowly or too quickly. If he metabolizes a drug too slowly, he may be exposed to too much of it, which may result in an adverse drug reaction (ADR). If he metabolizes a drug too quickly, he may be exposed to too less of it and the drug might be less effective.

“Over 4 billion prescriptions are filled each year yet 50-75% don't work as intended”

“Adverse Drug Reactions (ADRs) are the fourth leading cause of death”

“Efficacy rates of drugs have been estimated to be roughly only 50%”

We have the Solution: Genome Shield iPGX (Pharmacogenomics) Test

Pharmacogenomics is the study of how a person's genes affect his response to drugs. *At Genome Shield, we believe that medication should be personalized.*

Genome Shield in collaboration with scientists from prestigious institutes have developed a fast, effective and affordable test called the Genome Shield iPGX Test which can help you determine the right drug and its dosage to help:



Reduce Side Effects



Prevent Adverse Drug Reactions



Increase Drug Effectiveness



Prevent Unintended Interaction with Other Drugs

Traditional vs Genome Shield iPGX Test

Based on genetic variants, for each drug, the iPGX test classifies individuals into different subpopulations based on Metabolizer Status and resulting implication of drugs such as possible adverse reactions and/or lack of efficacy:



Ultrarapid Metabolizers

These individuals metabolize at greater than normal rate leading to decreased Efficacy.



Extensive Metabolizers

These individuals metabolize drugs at normal rates leading to a normal response to the drug.



Intermediate Metabolizers

These individuals metabolize drugs at slightly reduced rates resulting in possible Adverse Drug Reactions.



Poor Metabolizers

These individuals metabolize drugs at significantly reduced rates resulting in severe Adverse Drug Reaction.

The patients genetic profile is integrated with our knowledgebase using a proprietary algorithm based platform, to provide concrete prescription actions. These will include **quantitative dosage adjustments**, **specific alternate medications** to be used or **other suggestions such as frequency of therapeutic drug consumption**, which are indicated as intuitive KEYS (icons) as shown below:

Traditional Prescription Approach



















Trial and Error-Inadequate efficacy and ADRs

Normal label recommended



Genome Shield Prescription Approach

Metabolizer Status	Implication	Prescription Actions
EMs (Extensive Metabolizers)	These individuals metabolize drugs at normal rates leading to normal response to the drug	Normal dose    
IMs (Intermediate Metabolizers)	These individuals metabolize drugs at slightly reduced rates resulting in possible ADRs	Decrease dose    
UMs (Ultrarapid Metabolizers)	These individuals metabolize at greater than normal rate leading to decreased efficacy	Increase dose    
PMs (Poor Metabolizers)	These individuals metabolize drugs at significantly reduced rates resulting in severe ADRs	Alternative drug    

These recommendations are also provided through a dynamic interactive web /app based platform, besides conventional paper report.

Why Take the Genome Shield iPGX Test?



Coverage of Drugs

The Genome Shield Basic iPGX Test will cover 80 drugs. These constitute 20 % of all prescriptions and cover many of the drugs in clinical speciality areas such as Cardiology, Psychiatry, Pain Management, Gastroenterology, Diabetes, Neurology, Infectious Diseases, Immunology, Hematology, Rheumatology, Oncology and Dentistry. Many Over the Counter (OTC) drugs are included as well.



Informatics

The pharmacogenomic based prescription information will be provided online through an interactive website, app and paper report that will be sent to patient and physician. Information relating to specific drug for the specific individual can be searched through website or app or will come up in Electronic Health record at time of prescription.



Lifelong Resource

Since our DNA does not change this information is good for life. Genome Shield will store patient specific genetic information and provide interpretation and retrieval at point of care for you. The test once taken can therefore be used every time a medicine is prescribed when a patient visits a doctor regardless of the clinical specialty. It can therefore also be used ahead of the occurrence of a clinical condition in the patient, when he visits his primary care physician.



Credibility

Genome Shield's proprietary knowledgebase and analytics engine is developed by a team of scientists, physicians and pharmacists in collaboration with academic groups from the most prestigious universities. The prescription recommendations are generated using the CPIC, FDA and DPWG guidelines. The database is continuously curated and updated. Only drugs having high level of scientific evidence showing strong association with pharmacogenes are included.

iPGX Testing Process

Step 1:



Doctor orders test

Step 2:



Doctor collects saliva sample in office or saliva kit sent home to collect saliva.

Step 3:



Sample collected at home or at your doctors office or shipped to Genome Shield.

Step 4:

Genome Shield processes saliva sample and sends report to doctor and puts it up online and on the App.



About Genome Shield

Genome Shield is a Diagnostics and Software Informatics Company founded in New Haven, USA by Yale Pharmacology alumnus. It is a genetic testing and genetic information storage, interpretation and retrieval company. We deliver personalized medicine at affordable costs through our pharmacogenomics lab based test using the latest technologies along with a computational clinical decision system and App support, which have been developed in collaboration with academic members from the most prestigious universities in the US.



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