RPRD DIAGNOSTICS

— Right Patient | Right Drug —

PHARMACOGENOMICS ACCELERATES PERSONALIZED THERAPIES

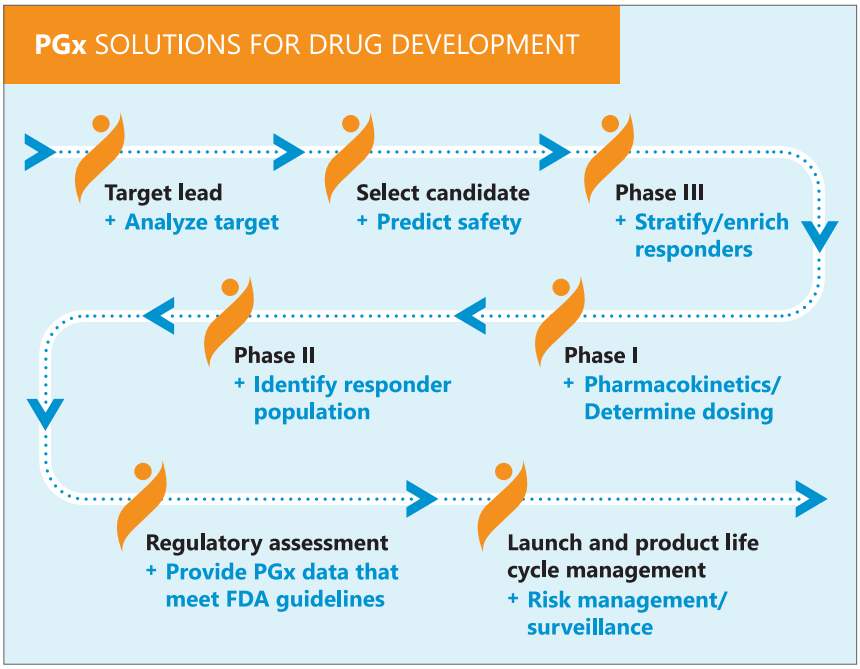
Leveraging Pharmacogenomics Solutions for Clinical Trials

RPRD™ Diagnostics (RPRD) is a recognized leader in pharmacogenomics research and clinical testing, offering deep expertise, unparalleled comprehensive pharmacogenomics (PGx) testing, in-depth data analysis, and consulting to organizations conducting clinical trials and drug development.

SOLUTIONS FOR CLINICAL TRIALS

CUSTOMIZED, END-TO-END PHARMACOGENETICS SOLUTIONS FOR DRUG DEVELOPMENT

We offer customized and end-to-end pharmacogenomics (PGx) solutions by leveraging our decades of experience in genomic translational research and clinical testing.



HIGH QUALITY TESTING SERVICE AND SUPPORT

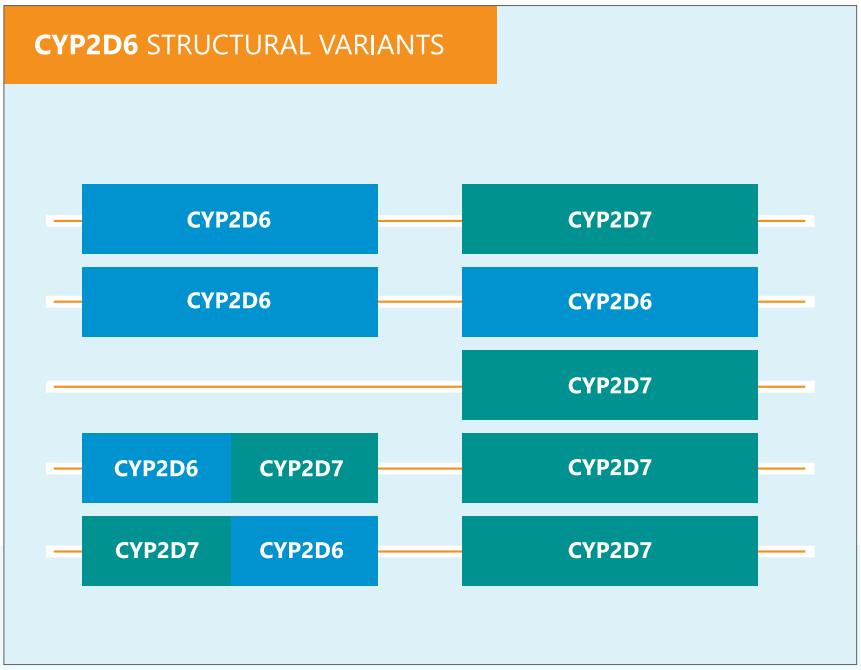
+ Most comprehensive coverage of PGx genes and alleles
+ Thorough analysis of SNPs, Indels, CNVs, translocations, etc.
+ >99.9% specificity and sensitivity
+ Custom genotyping available
+ Clinical diagnostic-grade quality safeguarded by robust quality control system
+ Comprehensive PGx microarray analysis and next generation sequencing (NGS)

A HIGHLY EXPERIENCED PHARMACOGENOMICS LABORATORY PARTNER

+ Decades of experience in genomics research and clinical diagnostic testing
+ Fully CLIA-certified diagnostic testing laboratory
+ Industry-leading data security
+ Compliance with HIPAA standards
+ 100% customer satisfaction guaranteed

RPRD'S FLAGSHIP SOLUTION TO CHARACTERIZE CYP2D6

CYP2D6 is a highly polymorphic gene with complex structural arrangements. Our innovative technology offers a one-stop solution to successfully characterize CYP2D6, including identifying rare SNPs, CNVs and hybrid alleles in a single assay.



CASE EXAMPLE

PG4KDS PGx Clinical Trial

An African American male was enrolled into the PG4KDS PGx clinical trial at St. Jude Children's Research Hospital. Previous genotyping by a competitor's CYP2D6 assay reported a *4/*17 diplotype (intermediate metabolizer). However, this CYP2D6 assay was not designed to detect the *40 allele. Subsequent genotyping by RPRD detected CYP2D6 *4/*40 genotype (poor metabolizer). RPRD's comprehensive approach yields ethnicity-unbiased testing result, which is essential for analyzing diverse populations.

+ CYP2D6 *40 is most commonly observed in the African population and differs from *17 by the presence of an in-frame insertion variant rs72549356. There is significant clinical relevance of the variant: *17 has reduced function, while *40 has no function. Most commercial CYP2D6 genotyping tests do not include this variant, and thus would have assigned an inaccurate phenotype.

Reference: Hoshitsuki et al. Genetics in Medicine. 2020. 22: 232.

Commonly Ordered PGx Genes

PHASE I ENZYME	PHASE II ENZYME	TRANSPORTER	MODIFIER
P450 enzyme (e.g. CYP2D6, CYP2C9, CYP2C19, CYP3A4)	UGT (e.g. UGT1A1, UGT1A8), GST (e.g. GSTM1, GSTM3), NAT (e.g. NAT1, NAT2), SULT (e.g. SULT1A1, SULT1A4), etc.	ABC transporter (e.g. ABCB1, ABCG2) SLC (e.g. SLCO5A1, SLC6A4), etc.	KCNQ1, CFTR, HBB, etc.

SUITE OF PHARMACOGENTICS ASSAYS

TESTS	GENES AND MARKERS
PharmacoScan® Assay	4,627 markers in 1,191 genes of known PGx value, including copy number analysis for high-value genes
PharmacoFocus® Assay	2000+ relevant PGx variants in 150 genes covering population diversity, including copy number analysis for high-value genes
UK Biobank Axiom® Array	820,967 SNPs and indel markers
Axiom® Precision Medicine Diversity Arrays	>900,000 markers relevant to GWAS research, PGx, health risk, etc.
Axiom® Transplant Genotyping Array	782,000 SNPs, CNVs and indel markers
Custom Gene Panel	Customizable genes and variant panels
Next Generation Sequencing Panel	Targeted NGS panel of genes

SPECIMEN REQUIREMENTS	
SPECIMEN	3-5mL peripheral whole blood in EDTA tube
	3-5mL frozen peripheral whole blood in EDTA tube
	Saliva sample
	Buccal swab sample
	Genomic DNA
SHIPPING	Ambient temperature for peripheral whole blood, saliva and buccal swab samples. Frozen samples must be shipped on dry ice. Ship for RPRD receipt on Monday through Friday only.
STABILITY	Freshly collected samples (e.g. peripheral whole blood, saliva sample and buccal swab sample) must be received by RPRD within 7 days from time of collection.

ABOUT RPRD DIAGNOSTICS

RPRD Diagnostics specializes in providing leading-edge and complete pharmacogenomics solutions including clinical testing, data analysis and consulting services to clinicians, researchers, and drug developers. RPRD's team of experts strive to unlock the power of science enabling personalized care for today and accelerating personalized therapies for tomorrow.

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