GenePGx

Pharmacogenomics Analysis · Personalized Medication Response — 700+ Medications Across 10 Specialties

PATIENT	DATE OF BIRTH	SAMPLE TYPE	SAMPLE ID
Sarah Mitchell	**1986-05-14 (Age 38)**	**Buccal (Cheek) Swab**	**GM-PGX-2024-04521**
REPORT ID	COLLECTION DATE	REPORT DATE	LABORATORY
GPX-2024-59214	**2024-03-04**	**2024-03-11**	**Gene Matrix CLIA Lab, Chicago, IL**
CLIA / NPI	ORDERING PROVIDER	METHOD	
14D2276402 / 1225729312	**Self-Ordered (DTC)**	**NGS with Star-Allele Calling**	

98+	700+	10	4
GENES ANALYZED	MEDICATIONS COVERED	MEDICAL SPECIALTIES	ACTIONABLE FINDINGS

/ Executive Summary

Your pharmacogenomic profile reveals four clinically actionable findings that directly affect medication selection and dosing. Most notably, you are a CYP2D6 poor metabolizer — codeine and tramadol will provide little to no pain relief, and several common antidepressants may accumulate to side-effect levels. You also carry a VKORC1 variant that increases warfarin sensitivity. Share this report with every prescriber; your DNA does not change, so these results are relevant for life.

Key result: Codeine won't convert to morphine in your body — if pain relief is needed, your doctor should select a non-CYP2D6 analgesic (e.g., oxycodone). This is a sample result. Your actual result will be personalized to your DNA.

/ Genetic Findings

GENE	VARIANT	GENOTYPE	IMPACT	RECOMMENDATION
CYP2D6	`*4/*4 (rs3892097)`	Poor Metabolizer	HIGH IMPACT Codeine and tramadol cannot be converted to their active forms — ineffective. SSRIs (fluoxetine, paroxetine, venlafaxine) and many beta-blockers reach higher-than-intended blood levels.	Avoid codeine/tramadol. Discuss antidepressants that bypass CYP2D6 with your prescriber. CPIC guideline referenced.
CYP2C19	`*1/*2`	Intermediate Metabolizer	MODERATE IMPACT Reduced activation of clopidogrel (Plavix) — antiplatelet effect may be diminished after cardiac procedures.	If antiplatelet therapy is required, consider prasugrel or ticagrelor per CPIC; both work without CYP2C19 conversion.

VKORC1	`rs9923231 G/A`	Increased Sensitivity	MODERATE IMPACT Increased sensitivity to warfarin — standard starting doses may overshoot therapeutic INR and raise bleeding risk.	Initiate warfarin at a reduced dose calculated with the CPIC/FDA pharmacogenetic algorithm; monitor INR closely.
CYP2C9	`*1/*1`	Normal Metabolizer	NORMAL Standard metabolism of warfarin, NSAIDs, sulfonylureas, and losartan.	No adjustment needed; standard dosing applies.
SLCO1B1	`rs4149056 T/C`	Intermediate Function	MODERATE IMPACT Reduced statin uptake into the liver — mildly elevated risk of simvastatin-associated muscle symptoms (myopathy).	If a statin is indicated, prefer a lower simvastatin dose or an alternative statin (e.g., rosuvastatin, pravastatin).
TPMT	`*1/*1`	Normal Activity	NORMAL Standard tolerance of thiopurines (azathioprine, 6-mercaptopurine).	Standard dosing with routine monitoring.
DPYD	`No variants detected`	Normal Metabolizer	NORMAL Standard breakdown of fluoropyrimidine chemotherapy (5-FU, capecitabine).	Standard dosing if ever required.

/ Metabolizer Status Summary

Your drug-metabolism phenotype for the most clinically impactful pharmacogenes. These enzymes together process the majority of all prescribed medications.

ENZYME / GENE	RESULT	CLINICAL IMPLICATION
CYP2D6 — metabolizes ~25% of all drugs	POOR METABOLIZER	Antidepressants, antipsychotics, beta-blockers, opioids, tamoxifen — dose or drug changes likely needed.
CYP2C19 — clopidogrel activation	INTERMEDIATE METABOLIZER	Plavix, PPIs, some antidepressants — reduced activation; alternative agents preferred for clopidogrel.
CYP2C9 — warfarin metabolism	NORMAL METABOLIZER	Warfarin, NSAIDs, sulfonylureas, losartan — standard dosing.
CYP3A4 — most abundant liver enzyme	NORMAL METABOLIZER	Statins, calcium channel blockers, immunosuppressants — standard dosing.
CYP1A2 — caffeine & theophylline	NORMAL METABOLIZER	Standard caffeine clearance.

/ Personalized Recommendations

For Your Prescriber

- Review this report before prescribing any antidepressant, opioid analgesic, anticoagulant, antiplatelet, or statin.
- This panel is aligned with FDA pharmacogenomic drug labels and includes CPIC and DPWG guideline references for each finding.
- Heart & blood pressure: 142 medications covered · Mental health: 128 · Pain relief: 96 · Cancer therapy: 84 · Stomach & digestion: 52 · Diabetes & hormones: 48.

What You Should Do

- Keep a copy of this report in your medical records — one test, a lifetime of better prescribing.
- Tell every new provider and pharmacist that you are a CYP2D6 poor metabolizer before accepting a prescription.
- Do not change any current medication based on this sample; always consult your physician first.

Important: This is a SAMPLE REPORT provided for demonstration purposes only. It does not constitute medical advice, diagnosis, or treatment. Genetic results identify predispositions and risk factors; they do not diagnose disease. Results should be discussed with a qualified healthcare provider before making any medical, dietary, supplement, training, or medication decisions. Do not start, stop, or change any medication without consulting your prescribing physician.

Laboratory: Gene Matrix LLC · 1375 W Fulton St STE 545, Chicago, IL 60607 · CLIA ID: 14D2276402 · NPI: 1225729312 · (847) 302-9668 · support@genematrix.io · Mon–Fri 8AM–5PM CT. Testing performed in a CLIA-certified, CAP-accredited laboratory using next-generation sequencing. Analytical accuracy 99.9%. All findings reviewed by board-certified geneticists.
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