

# SANFORD PHARMACOGENOMICS PANEL

# LIST OF MEDICATIONS

Pharmacogenomics (PGx) is the study of how your genes affect the way your body processes some medications. Medication processing is controlled by more than one gene. Sanford includes PGx genes in the test based on clinically supported data. The level of scientific support can vary depending on the medication and gene. The Clinical Pharmacogenetic Implementation Consortium (CPIC) and the Food and Drug Administration (FDA) continuously evaluate clinical data to update its list of gene and medication interactions.

Your PGx results may guide your doctor when starting certain commonly prescribed medications. Your doctor may recommend changing to a different medication or a different dose. Your test results are stored in your medical record for the future. PGx analysis is not available for all medications and results may not tell you exactly how you will respond to medications since other factors also influence how you react to medications. For individuals with established care at Sanford Health, a pharmacist will review your PGx results and contact your doctor with any recommendations.

**YOU SHOULD NOT STOP TAKING YOUR MEDICATIONS OR MAKE ANY CHANGES TO YOUR MEDICATIONS WITHOUT CONSULTING YOUR DOCTOR FIRST AS THIS CAN SERIOUSLY AFFECT YOUR HEALTH.**

Medication Use	Examples	Gene(s) Tested
Depression Anxiety Nerve pain	paroxetine, citalopram, escitalopram, fluvoxamine, etc.  amitriptyline, clomipramine, desipramine, doxepin, imipramine, nortriptyline, trimipramine	<i>CYP2D6</i> <i>CYP2C19</i>
Pain - opioids	codeine and tramadol	<i>CYP2D6</i>
Pain - NSAIDs	celecoxib, flurbiprofen, ibuprofen, meloxicam, piroxicam	<i>CYP2C9</i>
Heartburn Stomach upset	dexlansoprazole, lansoprazole, omeprazole, pantoprazole	<i>CYP2C19</i>
High cholesterol	Atorvastatin, rosuvastatin, simvastatin, etc.	<i>SLCO1B1</i>
Cancer Lupus Crohn's disease	azathioprine, mercaptopurine, thioguanine	<i>TPMT</i>
Attention deficit hyperactivity disorder	atomoxetine	<i>CYP2D6</i>
Cancer	capecitabine and fluorouracil	<i>DPYD</i>
Platelet inhibitor	clopidogrel	<i>CYP2C19</i>
Blood thinner	warfarin	<i>CYP2C9</i> <i>CYP4F2</i> <i>CYP2C cluster</i> <i>VKORC1</i>
Immunosuppressant	tacrolimus	<i>CYP3A5</i>
Antifungal	voriconazole	<i>CYP2C19</i>
Anti-seizure	fosphenytoin and phenytoin	<i>CYP2C9</i>

#### References:

Clinical Pharmacogenetics Implementation Consortium (CPIC)  
FDA table of Pharmacogenomic Associations Table 1-3