Medicines impacted by genetics

The following medicines can lead to a major or moderate drug-gene interaction.

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Speak with your doctor or pharmacist to understand your results and impact on medications you may be taking or considering taking.

This flyer is meant to be informational only and is not an exhaustive list or specific to your results. Do not change your medications unless instructed to do so by your prescribing clinician.

The most accurate and up-to-date information about how to adjust medications based on pharmacogenetic test results can be found at:

Clinical Pharmacogenetics Implementation Consortium (CPIC)

Compiles freely available, peer-reviewed, evidence-based, and detailed gene/drug clinical practice guidelines.

FDA Table of Pharmacogenetic Associations

Lists therapeutic products from Drugs@FDA for which there is sufficient evidence to suggest that certain subgroups of patients may experience altered therapeutic responses or have an increased risk of adverse effects.

Anesthesiology

Drug name	Gene
desflurane	CACNA1S†, RYR1†
enflurane	CACNA1S†, RYR1†
isoflurane	CACNA1S†, RYR1†
sevoflurane	CACNA1S†, RYR1†
succinylcholine	CACNA1S†, RYR1†

Behavioral health

Drug name	Gene
amitriptyline	CYP2C19, CYP2D6
amoxapine	CYP2D6
aripiprazole	CYP2D6
aripiprazole lauroxil	CYP2D6
atomoxetine	CYP2D6
brexpiprazole	CYP2D6
citalopram	CYP2C19
clomipramine	CYP2C19, CYP2D6
desipramine	CYP2D6
doxepin	CYP2C19, CYP2D6
escitalopram	CYP2C19
fluvoxamine	CYP2D6
iloperidone	CYP2D6
imipramine	CYP2C19, CYP2D6
nortriptyline	CYP2D6
paroxetine	CYP2D6
perphenazine	CYP2D6

Behavioral health *(continued)*

Drug name	Gene
pimozide	CYP2D6
protriptyline	CYP2D6
risperidone	CYP2D6
sertraline	CYP2C19
thioridazine	CYP2D6
trimipramine	CYP2C19, CYP2D6
venlafaxine	CYP2D6
vortioxetine	CYP2D6

Cardiology

Drug name	Gene
aspirin	G6PD†
clopidogrel	CYP2C19
hydralazine	NAT2
metoprolol	CYP2D6
propafenone	CYP2D6
simvastatin	SLCO1B1
warfarin	CYP2C9, CYP4F2, VKORC1

Endocrinology

Drug name	Gene
chlorpropamide	G6PD†
glimepiride	G6PD†
glipizide	G6PD†

Gastroenterology

Drug name	Gene
dexlansoprazole	CYP2C19
lansoprazole	CYP2C19
mesalamine	G6PD†
omeprazole	CYP2C19
ondansetron	CYP2D6
pantoprazole	CYP2C19

Hematology/Oncology

Drug name	Gene
belinostat	UGT1A1
capecitabine	DPYD
eliglustat	CYP2D6
fluorouracil	DPYD
irinotecan	UGT1A1
mercaptopurine	NUDT15†, TPMT
methylene blue	G6PD†
rasburicase	G6PD†
tamoxifen	CYP2D6
thioguanine	NUDT15†, TPMT

Medicines impacted by genetics *(continued)*

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Infectious disease

Drug name	Gene
abacavir	HLA-B*57:01
atazanavir	UGT1A1
ciprofloxacin	G6PD†
dapsone	G6PD†
efavirenz	CYP2B6
moxifloxacin	G6PD†
nitrofurantoin	G6PD†
norfloxacin	G6PD†
primaquine	G6PD†
quinine	G6PD†
sulfadiazine	G6PD†
sulfamethoxazole /trimethoprim	G6PD†
tafenoquine	G6PD†
voriconazole	CYP2C19

Neurology

Drug name	Gene
amifampridine	NAT2
brivaracetam	CYP2C19
carbamazepine	HLA-A*31:01†, HLA-B*15:02†
clobazam	CYP2C19
deutetrabenazine	CYP2D6
fosphenytoin	CYP2C9, HLA-B*15:02†
oxcarbazepine	HLA-B*15:02†
phenytoin	CYP2C9, HLA-B*15:02†
pitolisant	CYP2D6
siponimod	CYP2C9
tetrabenazine	CYP2D6
valbenazine	CYP2D6

Pain management

Drug name	Gene
aspirin	G6PD†
celecoxib	CYP2C9
codeine	CYP2D6
flurbiprofen	CYP2C9
hydrocodone	CYP2D6
ibuprofen	CYP2C9
meloxicam	CYP2C9
methadone	CYP2B6
piroxicam	CYP2C9
tramadol	CYP2D6

Pulmonary medicine

Drug name	Gene
ivacaftor	CFTR†

Rheumatology

Drug name	Gene
allopurinol	HLA-B*58:01†
azathioprine	NUDT15†, TPMT
pegloticase	G6PD†
probenecid	G6PD†
sulfasalazine	G6PD†

Toxicology

Drug name	Gene
sodium nitrite	G6PD†

Transplant

Drug name	Gene
tacrolimus	CYP3A5

Urology

Drug name	Gene
tamsulosin	CYP2D6

† Gene/variant is currently not on the pharmacogenomics panel, please go to invitae.com for more information.

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