



Pharmacogenetics (PGx) Sample Report

A confidential personalized guide to how the patient's unique genetic information affects their body's response to medications.

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Guide to Understanding Your Report

A how-to guide for reading and understanding the Pharmacogenetics (PGx) Report.

Important Test Insights

A list of the medications included in this report that are classified as either DO NOT USE or USE WITH CAUTION, based on the genetic variants that were detected.

Your Report Overview

A high-level overview/summary of the test results for all medications included in this report.

Your Detailed Recommendations

Detailed recommendations for all medications included in this report.

Analysis of Your Gene Profile

A complete list of the genes tested/variants detected that are known to impact responses to the medications included in this report.

Test Information

Glossary of terms, test information & legal content.

If you have any questions about this report, contact us by email at inquiries@getcheckedclinic.com.

Guide to Understanding Your Report

This section provides a how-to guide for reading and understanding the Getchecked Clinic's Report. The FULL report (which includes detailed insights and recommendations for ALL medications included in this report) is available to view in the section called **"Detailed Recommendations"**. You can also view a high-level summary of the overall results in the section called **"Report Overview"**.



How are Your Results Organized?

Four classifications provide you with quick insight into the general results of the test for each specific medication.



Do Not Use

When a medication has been labelled as **"Do Not Use"** it means that **this medication is NOT recommended, and using an alternative medication is recommended instead**, based on possible lack of effect or possible adverse side effects that could occur in individuals with this unique genetic profile. (Note: There may be rare circumstances where the prescriber may still choose to prescribe the medication based on his/her discretion, lack of suitable alternatives, and/or other non-genetic factors.)



Use with Caution

When a medication is labelled **"Use with Caution"** it means that **one or more gene-drug interactions have been identified that may impact the drug's effectiveness or tolerability**. Based on available data, **response to the medication is expected to be different from most people** (for example, it may not provide the expected therapeutic effect at the standard recommended dose, or may result in increased risk of side effects in individuals with this unique genetic profile.)

For any medications labelled as **"Use with Caution"**, you should familiarize yourself with the identified risks and personalized recommendations provided in the Detailed Recommendations section of the report. This is also important information to share with any prescribers/the health care team, as it may impact decisions about treatment. In some cases, a different dose may be required, and in other cases the medication may not be recommended at all, based on the predicted response.



Use as Directed*

When a medication has been labelled **"Use As Directed**"** it means that **no altered gene-drug interaction has been identified**, therefore based on currently available data**, **response to the medication is expected to be similar to most other individuals at standard doses**, and no individualized prescribing recommendations are provided as a result.



Use as Directed/Preferred*

When a medication has been labelled **"Use As Directed - Preferred**"** it means that one or more altered gene-drug interactions have been identified that have been linked to an increased likelihood of responding to the medication (in other words, based on available data**, this medication has a higher likelihood of being effective for the individual tested, than it would be for most people (based on their unique genetic profile). In some cases (not always), an individual prescribing recommendation may be provided (for example, should an altered dose be recommended).

IMPORTANT NOTES

* If a medication is categorized as **"Use As Directed"** or **"Use As Directed/Preferred"** it does not mean the medication is guaranteed to work well, or that no side effects will be experienced. Genetics is only one of many factors impacting how individuals will respond to medications. Other factors influencing drug response may include environment, overall health, lifestyle choices, other health conditions, other medications being taken, and other factors.

** Pharmacogenetics studies are still ongoing and additional drug - gene interactions may be discovered in the future.

Important Test Insights

Below you will find a list of those medications that are classified as: “DO NOT USE”, as well as those categorized as “USE WITH CAUTION”, based on the gene-drug interactions that were identified through testing.


























































IMPORTANT: Please review the previous section entitled “Guide to Understanding the Report” for guidance on how to interpret these results. Refer to the section entitled “Detailed Recommendations” in the pages that follow to view the detailed, personalized recommendations provided for each of the drugs listed below.

Medications Classified As: Do Not Use

 Carbamazepine
  Clopidogrel
 

 Primaquine  Rasburicase

Medications Classified As: Use with Caution

 Acetylsalicylic Acid	 Amifampridine	 Amitriptyline
 Atomoxetine	 Atorvastatin	 Brivaracetam
 Bupivacaine	 Chloroquine	 Ciprofloxacin
 Citalopram	 Clobazam	 Clomipramine
 Codeine	 Dabrafenib	 Dapsone
 Desipramine	 Dexlansoprazole	 Doxepin
 Escitalopram	 Glimepiride	 Glyburide
 Hydrocodone	 Hydroxychloroquine	 Imipramine
 Isoniazid	 Lansoprazole	 Lidocaine
 Lidocaine and Prilocaine	 Lidocaine and Tetracaine	 Mepivacaine
 Methylene blue	 Metoprolol	 Nitrofurantoin
 Nitroglycerin	 Norfloxacin	 Nortriptyline
 Ofloxacin	 Omeprazole	 Oxycodone
 Pantoprazole	 Paroxetine	 Peginterferon alfa-2a
 Pimozide	 Prilocaine	 Quinine
 Rifampin	 Ropivacaine	 Sertraline
 Sulfadiazine	 Sulfamethoxazole and Trimethoprim	 Sulfasalazine
 Tacrolimus	 Tramadol	 Trimipramine
 Vitamin C	 Warfarin	 Zuclopenthixol

Your Report Overview



















This section provides an overall (high-level) summary of the test results. Please review the previous section entitled “Guide to Understanding the Report” for guidance on how to interpret these results. Refer to the section entitled “Detailed Recommendations” in the pages that follow to view the detailed, personalized recommendations provided for each of the drugs listed.

Note: If you are looking for a medication that does NOT appear on this summary, it is either because that medication is not currently available in the US and Canada, or because (to the best of our knowledge) there are no actionable associations for that medication based on the genes we test for at this time.

Report Overview results are sorted by

Drug Name

Drug Class

Do Not Use	Use with Caution	Use as Directed + Preferred
ADHD - Stimulants and Non-Stimulants		
	 Atomoxetine	 Amphetamine
Alpha2-Adrenergic Agonist		
		 Lofexidine
Antiarrhythmics		
		 Flecainide
		 Propafenone
Antibiotics		
		
	Ciprofloxacin 	
	Dapsone  Isoniazid	
		
	Nitrofurantoin 	
	Norfloxacin 	
	Ofloxacin	
		
	Rifampin 	
	Sulfadiazine	
	 Sulfamethoxazole and Trimethoprim	
Anticonvulsants		
 Carbamazepine	 Brivaracetam	 Fosphenytoin
		 Phenytoin
Antidepressants - Others		

- Bupropion
- Dextromethorphan and Bupropion
- Fluoxetine and Olanzapine
-
- Mirtazapine
- Modafinil
- Vortioxetine

Antidepressants - SNRI

-
- Duloxetine
- Venlafaxine

Antidepressants - SSRI

- Citalopram
- Escitalopram
- Paroxetine
- Sertraline
- Fluvoxamine

Antidepressants - Tricyclic

- Amitriptyline
- Clomipramine
- Desipramine
- Doxepin
- Imipramine
- Nortriptyline
- Trimipramine
- Protriptyline

Antidiabetic Agents

- Glimepiride
- Glyburide

Antifungals

- Voriconazole

Antimalarials

- Primaquine
- Chloroquine
- Hydroxychloroquine
- Quinine

Antimuscarinics



Darifenacin

Fesoterodine

Tolterodine

Antineoplastic Agents



Dabrafenib

Belzutifan



Capecitabine

Cisplatin

Erdafitinib

Erlotinib

Fluorouracil

Gefitinib

Irinotecan

Mercaptopurine



Nilotinib

Pazopanib

Tamoxifen

Thioguanine

Antiretrovirals

Dolutegravir

Antiretrovirals - NNRTI

Abacavir



Antiretrovirals - NRTI

Nevirapine

Antiretrovirals - Protease Inhibitor

Efavirenz

Atazanavir

Antithrombotics



Clopidogrel



Warfarin

Antivirals



Peginterferon alfa-2a

Beta-Blockers



Metoprolol

Carvedilol

Nebivolol

Propranolol

Cannabinoids

✔ Dronabinol

Cholinergic Agents

✔

Donepezil ✔

Galantamine

Endocrinology - Others

✔ Eliglustat

✔ Flibanserin

General & Inhalational Anesthesia

✔

Desflurane ✔

Isoflurane

✔

Methoxyflurane ✔

Sevoflurane

H3 Receptor Antagonists

Hematopoietic Agents

✔

Pitolisant ✔

Hormonal Contraceptives

Eltrombopag

✔ Ethinyl estradiol

✔ Norelgestromin

Immunomodulatory Agents

! Sulfasalazine

✔ Siponimod

Immunosuppressants

! Tacrolimus

✔ Azathioprine

✔ Methotrexate

Local Anesthetics

!

Bupivacaine !

Lidocaine

!

Lidocaine and Prilocaine

!

Lidocaine and Tetracaine

!

Mepivacaine

!

Prilocaine !

Ropivacaine

Methemoglobinemia Agent/Antidote

!

Methylene blue

Monoamine Depleting Agent

✔ Tetrabenazine

Muscle Relaxant/Neuromuscular Blocker

✔ Succinylcholine

Neurology-other (VMAT2 Inhibitor)

✔ Deutetrabenazine

✔ Dextromethorphan and Quinidine

Nitrates

! Nitroglycerin

Nonsteroidal Inflammatory Drugs (NSAIDs)

! Acetylsalicylic Acid

✔

Celecoxib ✔

Flurbiprofen ✔

Ibuprofen

✔ Meloxicam

✔ Piroxicam

Opioids

! Codeine

Methadone
✔

! Hydrocodone

! Oxycodone

! Tramadol

Other

! Vitamin C

✔ Elagolix

✔ Metoclopramide

✔ Ondansetron

Potassium channel blocker

! Amifampridine

Proton-Pump Inhibitors (PPIs)

!

✔ Esomeprazole

Dexlansoprazole !

✔ Rabeprazole

Lansoprazole

! Omeprazole



! Pantoprazole




Psychotropics - Benzodiazepines

! Clobazam






✔ Diazepam

Psychotropics 1st Generation Antipsychotics

-  Pimozide
-  Zuclopenthixol

-  Haloperidol
-  Perphenazine
-  Thioridazine

Psychotropics 2nd Generation Antipsychotics

- 
- Aripiprazole 
- Brexpiprazole 
- Clozapine 
- Iloperidone 
- Quetiapine 
- Risperidone

Selective Alfa-1-Adrenergic Blocking Agents



Selective Beta 2-adrenergic Agonists (SABAs)


Tamsulosin 

Selective Estrogen Receptor Modulators

Salmeterol

 Ospemifene

Statins - HMG-COA Reductase Inhibitors


 Atorvastatin

 Fluvastatin




Lovastatin 

Pravastatin

 Rosuvastatin

 Simvastatin

Uricolytic Agent/Enzymes

 Rasburicase

Uricosuric/Antigout Agents

 Allopurinol

Urinary Antispasmodic (Selective Beta 3-Adrenergic Agonists)









Mirabegron



Your Detailed Recommendations

This section provides a detailed look at the predicted response to all medications included in this report, and includes any/all personalized recommendations regarding their use. (The drugs are listed by generic name and in alphabetical order.)

Note: Please review the previous section entitled “Guide to Understanding the Report” for guidance on how to interpret these results.

Abacavir		Antiretrovirals - NNRTI
Kivexa, Triumeq, Trizivir, Ziagen		
Acetylsalicylic Acid		Nonsteroidal Inflammatory Drugs (NSAIDs)
ASA, Aggrenox, Aspirin		
<u>Response to medication may be impacted by gene: G6PD</u>		
You might be at an increased risk of side effects from this medication. These include homolysis and hemolytic anemia and are more likely at high doses, with fever, or acute infections.		
Source: Swissmedic		
Allopurinol		Uricosuric/Antigout Agents
Aloprim, Zyloprim		
Amifampridine		Potassium channel blocker
Firdapse, Ruzurgi		
<u>Response to medication may be impacted by gene: NAT2</u>		
You may have an increased risk of experiencing higher medication levels in your body, and an increased risk of side effects. The lowest recommended starting dose should be prescribed. Side effects should be monitored closely.		
Source: FDA		
Amitriptyline		Antidepressants - Tricyclic
Elavil		
<u>Response to medication may be impacted by gene: CYP2D6 & CYP2C19</u>		
Your prescriber should consider a 25% reduction in the recommended starting dose.		
Source: CPIC - A		
Amphetamine		ADHD - Stimulants and Non-Stimulants
Adderall XR, Adzenys, Evekeo		
Aripiprazole		Psychotropics 2nd Generation Antipsychotics
Abilify		
Atazanavir		Antiretrovirals - Protease Inhibitor
Evotaz, Reyataz		

Atomoxetine

Strattera



ADHD - Stimulants and Non-Stimulants

Response to medication may be impacted by gene: CYP2D6

For children: Start with 0.5 mg/kg/day. If no response after 2 weeks and no adverse effects, check plasma concentration after 2-4 hours for intermediate metabolizers or 4 hours for poor metabolizers. Increase dose to approach 400ng/ml if concentration is < 200 ng/ml. Reduce dose if there are side effects. For adults: Start with 40 mg/day, increase to 80 mg/day if no response after 2 weeks. Check plasma concentration if response is inadequate. Increase dose if concentration is < 200 ng/ml. Reduce dose if there are side effects.

Source: [CPIC - A](#)

Atorvastatin

Caduet, Lipitor, Lypqozet



Statins - HMG-COA Reductase Inhibitors

Response to medication may be impacted by gene: APOE

This medication may be less effective for you.

Source: [PharmGKB-2A](#)

Azathioprine

Imuran



Immunosuppressants

Belzutifan

Welireg



Antineoplastic Agents

Brexpiprazole

Rexulti



Psychotropics 2nd Generation Antipsychotics

Brivaracetam

Briivact, Brivlera



Anticonvulsants

Response to medication may be impacted by gene: CYP2C19

You are at an increased risk of experiencing a higher concentration of medication in your body, and an increased risk of side effects.

Source: [FDA](#)

Bupivacaine

Exparel, Marcaine, Sensorcaine, Vivacaine



Local Anesthetics

Response to medication may be impacted by gene: G6PD

You may be at an increased risk of experiencing a certain blood condition (methemoglobinemia) if you take this medication. If this or other local anesthetics are prescribed, you should be closely monitored for signs and symptoms of methemoglobinemia.

Source: [FDA](#)

Bupropion

Contrave, Forfivo XL, Wellbutrin, Zyban



Antidepressants - Others

Capecitabine

Xeloda



Antineoplastic Agents

Carbamazepine

Carbatrol, Equetro, Tegretol



Anticonvulsants

Response to medication may be impacted by gene: HLA-A

You should not be prescribed this medication due to the risk of specific side effects (SJS/TEN, DRESS, and MPE). If you take this medication, you should be carefully monitored for side effects for the first three months, at which point your side effect risk is decreased.

Source: [CPIC - A](#)

Carvedilol

Coreg



Beta-Blockers

Celecoxib

Celebrex, Seglentis



Nonsteroidal Inflammatory Drugs (NSAIDs)

Chloroquine

Aralen



Antimalarials

Response to medication may be impacted by gene: G6PD

This medication may cause you to experience a specific blood side effect (hemolysis). Blood monitoring may be needed as a medical condition called "hemolytic anemia" may arise.

Source: [FDA](#)

Ciprofloxacin

Cipro



Antibiotics

Response to medication may be impacted by gene: G6PD

This genotype has been associated with hemolytic reactions to quinolones. Your prescriber should use ciprofloxacin with caution.

Source: [Swissmedic](#)

Cisplatin

Platinol



Antineoplastic Agents

Citalopram

Celexa



Antidepressants - SSRI

Response to medication may be impacted by gene: CYP2C19

Your prescriber should initiate therapy with recommended starting dose and consider a slower adjustment schedule and lower maintenance dose.

Source: [CPIC - A](#)

Clobazam

Frisium



Psychotropics - Benzodiazepines

Response to medication may be impacted by gene: CYP2C19

You are at an increased risk of experiencing a higher concentration of medication in your body, and an increased risk of side effects as a result. Your prescriber should adjust your dose.

Source: [FDA](#)

Clomipramine

Anafranil



Antidepressants - Tricyclic

Response to medication may be impacted by gene: CYP2D6 & CYP2C19

Your prescriber should consider a 25% reduction in the recommended starting dose.

Source: [CPIC - A](#)

Clopidogrel

Plavix



Antithrombotics

Response to medication may be impacted by gene: CYP2C19

Your prescriber should not select this medication if possible. An alternative prescribed medication in the same class should be considered if appropriate for your medical condition and there are no restrictions against use ("contraindications"). Alternative medications in the same class not affected by this genetic variant include ticagrelor and ticlopidine. Prasugrel is restricted from use in individuals with a history of stroke or TIA.

Source: [CPIC - A](#)

Clozapine

Clozaril



Psychotropics 2nd Generation Antipsychotics

Codeine

Codeine Contin, Tylenol with Codeine



Opioids

Response to medication may be impacted by gene: CYP2D6

Your prescriber should select your dose based on age or weight-specific dosing recommendations. If you don't respond to the medication but you require an opioid, your prescriber should consider avoiding tramadol.

Source: [CPIC - A](#)

Dabrafenib

Tafinlar



Antineoplastic Agents

Response to medication may be impacted by gene: G6PD

This medication may increase your risk of a specific blood side effect (hemolytic anemia). You should be monitored for signs of hemolytic anemia if you are prescribed this medication.

Source: [FDA](#)

Dapsone

Dapsone



Antibiotics

Response to medication may be impacted by gene: G6PD

If you are being treated with this medication, in combination with two other medications (artesunate and chlorproguanil) for malaria, you may have an increased risk of specific side effects in your blood (hemolysis, severe/unsafe hemoglobin decreases).













Source: [PharmGKB-1B](#)

















Darifenacin










Enablex



Antimuscarinics

Desflurane Suprane		General & Inhalational Anesthesia
Desipramine Norpramin		Antidepressants - Tricyclic
<p><u>Response to medication may be impacted by gene: CYP2D6</u></p> <p>Your prescriber should consider selecting one quarter (25%) of the recommended starting dose and use blood tests specific to the medication (therapeutic drug monitoring) to guide dose adjustments.</p> <p style="text-align: right;">Source: CPIC</p>		
Deutetrabenazine Austedo		Neurology-other (VMAT2 Inhibitor)
Dexlansoprazole Dexilant		Proton-Pump Inhibitors (PPIs)
<p><u>Response to medication may be impacted by gene: CYP2C19</u></p> <p>Your prescriber should select the standard starting daily dose. If effective and being used long term use (greater than 12 weeks), your prescriber should consider reducing your daily dose by half and monitoring for continued effect.</p> <p style="text-align: right;">Source: CPIC - A</p>		
Dextromethorphan and Bupropion Auvelity		Antidepressants - Others
Dextromethorphan and Quinidine Nuedexta		Neurology-other (VMAT2 Inhibitor)
Diazepam Diastat, Valium		Psychotropics - Benzodiazepines
Dolutegravir Dovato, Juluca, Tivicay, Triumeq		Antiretrovirals
Donepezil Aricept, Namzaric		Cholinergic Agents
Doxepin Silenor, Sinequan		Antidepressants - Tricyclic
<p><u>Response to medication may be impacted by gene: CYP2D6 & CYP2C19</u></p> <p>Your prescriber should consider a 25% reduction in the recommended starting dose.</p> <p style="text-align: right;">Source: CPIC - A</p>		
Duloxetine Cymbalta		Antidepressants - SNRI
Efavirenz Atripla, Sustiva		Antiretrovirals - NRTI

Elagolix Oriahnn, Orilissa		Other
Eliglustat Cerdelga		Endocrinology - Others
Eltrombopag Promacta, Revolade		Hematopoietic Agents
Erdafitinib Balversa		Antineoplastic Agents
Erlotinib Tarceva		Antineoplastic Agents
Escitalopram Cipralex, Lexapro		Antidepressants - SSRI
<p><u>Response to medication may be impacted by gene: CYP2C19</u></p> <p>Your prescriber should initiate therapy with recommended starting dose and consider a slower adjustment schedule and lower maintenance dose.</p> <p style="text-align: right;">Source: CPIC - A</p>		
Esomeprazole Nexium, Vimovo		Proton-Pump Inhibitors (PPIs)
Ethinyl estradiol Alesse, Evra, Linessa, Lolo, Marvelon, Nuvaring, Seasonale, Seasonique, Yasmin, Yaz		Hormonal Contraceptives
Fesoterodine Toviaz		Antimuscarinics
Flecainide Flecainide		Antiarrhythmics
Flibanserin Addyi		Endocrinology - Others
Fluorouracil Efudex		Antineoplastic Agents
Fluoxetine and Olanzapine Symbyax		Antidepressants - Others
Flurbiprofen Flurbiprofen		Nonsteroidal Inflammatory Drugs (NSAIDs)
Fluvastatin Lescol		Statins - HMG-COA Reductase Inhibitors
Fluvoxamine Luvox		Antidepressants - SSRI

Fosphenytoin Cerebyx		Anticonvulsants
Galantamine Razadyne, Reminyl		Cholinergic Agents
Gefitinib Iressa		Antineoplastic Agents
Glimepiride Amaryl		Antidiabetic Agents
<p><u>Response to medication may be impacted by gene: G6PD</u></p> <p>Medications in the "sulfonylurea" class (including glimepiride) may increase your risk of a specific side effect in your blood (hemolytic anemia). Your prescriber should use caution and consider the use of alternatives in a different class.</p> <p style="text-align: right;">Source: FDA</p>		
Glyburide Diabeta		Antidiabetic Agents
<p><u>Response to medication may be impacted by gene: G6PD</u></p> <p>Medications in the "sulfonylurea" class (including glimepiride) may increase your risk of a specific side effect in your blood (hemolytic anemia). Your prescriber should use caution and consider the use of alternatives in a different class.</p> <p style="text-align: right;">Source: FDA</p>		
Haloperidol Haldol		Psychotropics 1st Generation Antipsychotics
Hydrocodone Dalmacol, Hycodan, Vicodin		Opioids
<p><u>Response to medication may be impacted by gene: CYP2D6</u></p> <p>Your prescriber should consult standard manufacturer provided dosing specific to your age or weight when prescribing this medication for you. If you don't respond to this medication but you require an opioid, your prescriber should consider avoiding specific medications (codeine and tramadol).</p> <p style="text-align: right;">Source: CPIC</p>		
Hydroxychloroquine Plaquenil		Antimalarials
<p><u>Response to medication may be impacted by gene: G6PD</u></p> <p>This medication may cause you to experience a specific side effect in your blood (hemolysis). If you are prescribed this medication, you should be monitored for a specific medical condition called hemolytic anemia particularly if taken with other medications that can cause hemolysis as a side effect.</p> <p style="text-align: right;">Source: FDA</p>		
Ibuprofen Advil, Motrin		Nonsteroidal Inflammatory Drugs (NSAIDs)

Iloperidone

Fanapt



Imipramine

Antidepressants - Tricyclic

Tofranil



Response to medication may be impacted by gene: CYP2D6 & CYP2C19

Your prescriber should consider a 25% reduction in the recommended starting dose.

Source: [CPIC - A](#)

Irinotecan

Antineoplastic Agents

Camptosar, Onivyde



Isoflurane

General & Inhalational Anesthesia

Forane



Isoniazid

Antibiotics

Isoniazid



Response to medication may be impacted by gene: NAT2

You may be at an increased risk of developing toxic liver disease when treated with isoniazid regimens for tuberculosis. However, conflicting evidence has been reported.

Source: [PharmGKB - 1B](#)

Lansoprazole

Proton-Pump Inhibitors (PPIs)

Hp-PAC, Prevacid, Prevpac



Response to medication may be impacted by gene: CYP2C19

Your prescriber should select the standard starting daily dose. If effective and being used long term, your prescriber should consider reducing your daily dose by half (50%).

Source: [CPIC - A](#)

Lidocaine

Local Anesthetics

Xylocaine



Response to medication may be impacted by gene: G6PD

You may be at an increased risk of experiencing a certain blood condition (methemoglobinemia) if you take this medication or other medications in the same family. If this or other local anesthetics are prescribed, you should be closely monitored for signs and symptoms of methemoglobinemia.

Source: [FDA](#)

Lidocaine and Prilocaine

Local Anesthetics

Oraqix



[Response to medication may be impacted by gene: G6PD](#)

You may be at an increased risk of experiencing a certain blood condition (methemoglobinemia) if you take this medication or other medications in the same family. If this or other local anesthetics are prescribed, you should be closely monitored for signs and symptoms of methemoglobinemia.

Source: [FDA](#)

Lidocaine and Tetracaine

Local Anesthetics

Pliaglis



[Response to medication may be impacted by gene: G6PD](#)

You may be at an increased risk of experiencing a specific side effect in your blood (methemoglobinemia) if you take this medication or other medications in the same class. If this or other local anesthetics are prescribed, it is recommended that close monitoring of signs and symptoms of methemoglobinemia occurs.

Source: [FDA](#)

Lofexidine

Alpha2-Adrenergic Agonist

Lucemyra



Lovastatin

Statins - HMG-COA Reductase Inhibitors

Altoprev, Mevacor



Meloxicam

Nonsteroidal Inflammatory Drugs (NSAIDs)

Mobic, Mobicox



Mepivacaine

Local Anesthetics

Carbocaine, Polocaine Dental



[Response to medication may be impacted by gene: G6PD](#)

You may be at an increased risk of experiencing a specific side effect in your blood (methemoglobinemia) if you take this medication or other medications in the same class. If this or other local anesthetics are prescribed, it is recommended that close monitoring of signs and symptoms of methemoglobinemia occurs.

Source: [FDA](#)

Mercaptopurine

Antineoplastic Agents

Purinethol, Purixan



Methadone

Opioids

Metadol, Methadose














Methotrexate

Immunosuppressants

Jylamvo, Methofill Self-Dose Injector, Metoject, Otrexup, Rasuvo, Reditrex, Xatmep



Methoxyflurane		General & Inhalational Anesthesia
Penthrox		
Methylene blue		Methemoglobinemia Agent/Antidote
Provayblue		
		<u>Response to medication may be impacted by gene: G6PD</u>
		You may be at an increased risk of experiencing certain blood conditions (severe hemolysis and severe anemia) if you take this medication. This medication has a strict warning against use in individuals with a G6PD deficiency.
		Source: FDA
Metoclopramide		Other
Gimoti, Reglan		
Metoprolol		Beta-Blockers
Lopresor		
		<u>Response to medication may be impacted by gene: CYP2D6</u>
		You may have decreased ability to process this medication (decreased metabolism). Your prescriber should use smaller dose increases and/or prescribe no more than 25% of the standard dose for heart rate reduction or 50% for symptomatic bradycardia.
		Source: PharmGKB - 2A
Mirabegron		Urinary Antispasmodic (Selective Beta 3-Adrenergic Agonists)
Myrbetriq		
Mirtazapine		Antidepressants - Others
Remeron		
Modafinil		Antidepressants - Others
Alertec, PROVIGIL		
Nebivolol		Beta-Blockers
Bystolic		
Nevirapine		Antiretrovirals - NNRTI
Viramune		
Nilotinib		Antineoplastic Agents
Tasigna		
Nitrofurantoin		Antibiotics
MacroBID		
		<u>Response to medication may be impacted by gene: G6PD</u>
		You are at risk of experiencing a specific side effect in your blood (hemolytic anemia). The process causing this side effect (hemolysis) stops when the medication is discontinued.
		Source: FDA

Nitroglycerin

Nitro-Dur, Nitrolingual Pumpspray,
Nitrostat



Nitrates

Response to medication may be impacted by gene: G6PD

If you have a certain blood condition (anemic hypoxemia) due to your G6PD deficiency, your prescriber should treat your situation with caution when considering this medication.

Source: [Swissmedic](#)

Norelgestromin

Evra



Hormonal Contraceptives

Norfloxacin

Norfloxacin



Antibiotics

Response to medication may be impacted by gene: G6PD

Medications in the quinolone antibacterial class (including norfloxacin) may rarely cause a specific type of blood side effect (hemolytic reactions).

Source: [FDA](#)

Nortriptyline

Aventyl, Pamelor



Antidepressants - Tricyclic

Response to medication may be impacted by gene: CYP2D6

Your prescriber should consider a 25% reduction in the recommended starting dose and should use blood tests specific to the medication to guide dose adjustments.

Source: [CPIC - A](#)

Ofloxacin

Ofloxacin



Antibiotics

Response to medication may be impacted by gene: G6PD

The Swiss drug label for ofloxacin (Tarivid) states that ofloxacin should be used with caution in patients with G6PD deficiency due to increased risk of hemolytic reactions.

Source: [Swissmedic](#)

Omeprazole

Losec, Prilosec



Proton-Pump Inhibitors (PPIs)

Response to medication may be impacted by gene: CYP2C19

Your prescriber should select the standard starting daily dose. If effective and being used long term, your prescriber should consider reducing your daily dose by half (50%).

Source: [CPIC - A](#)

Ondansetron

Zofran



Other

Ospemifene

Osphena



Selective Estrogen Receptor Modulators

Oxycodone

OxyNeo, Oxycontin, Percocet, Targin



Opioids

[Response to medication may be impacted by gene: CYP2D6](#)

You may have decreased ability to process this medication (decreased metabolism).

Source: [PharmGKB - 2A](#)

Pantoprazole

Pantoloc, Protonix, Tecta



Proton-Pump Inhibitors (PPIs)

[Response to medication may be impacted by gene: CYP2C19](#)

Your prescriber should select the standard starting daily dose. If effective and being used long term (>12 weeks) your prescriber should consider reducing your daily dose by 50% and monitor for continued effect.

Source: [CPIC - A](#)

Paroxetine

Brisdelle, Paxil, Pexeva



Antidepressants - SSRI

[Response to medication may be impacted by gene: CYP2D6](#)

Your prescriber should consider a lower starting dose and slower titration schedule

Source: [CPIC - A](#)

Pazopanib

Votrient



Antineoplastic Agents

Peginterferon alfa-2a

Pegasys



Antivirals

[Response to medication may be impacted by gene: IFNL3](#)

Peginterferon alfa-2a + ribavirin: You have approximately 30% chance of benefit after 48 weeks of treatment if taking this medication along with ribavirin.

Peginterferon alfa-2a + ribavirin + protease inhibitor combinations: You have approximately 60% chance of benefit (after 24-48 weeks of treatment if taking this medication along with ribavirin and protease inhibitor combinations. Approximately 50% of individuals are eligible for shortened therapy regimens (24-28 weeks).

Source: [CPIC - A](#)

Perphenazine

Perphenazine



Psychotropics 1st Generation Antipsychotics

Phenytoin

Dilantin



Anticonvulsants

Pimozide

Orap














Psychotropics 1st Generation Antipsychotics

[Response to medication may be impacted by gene: CYP2D6](#)

You are at an increased risk of experiencing a higher concentration of medication in your body. If you are an adult, you should not be prescribed more than 80% of the maximum dose or 16 mg/day for adults and 0.08 mg/kg to a maximum of 3mg/day for children under 12.

Source: [DPWG](#)

Piroxicam		Nonsteroidal Inflammatory Drugs (NSAIDs)
Feldene		
Pitolisant		H3 Receptor Antagonists
Wakix		
Pravastatin		Statins - HMG-COA Reductase Inhibitors
Pravachol		
Prilocaine		Local Anesthetics
Citanest, Emla		
		<u>Response to medication may be impacted by gene: G6PD</u>
		You may be at an increased risk of experiencing a certain blood condition (methemoglobinemia) if you take this medication or other medications in the same family. If this or other local anesthetics are prescribed, you should be closely monitored for signs and symptoms of methemoglobinemia.
		Source: FDA
Primaquine		Antimalarials
Primaquine		
		<u>Response to medication may be impacted by gene: G6PD</u>
		You should not be prescribed this medication due to the risk of a specific side effect in your blood (hemolytic anemia).
		Source: FDA
Propafenone		Antiarrhythmics
Rythmol		
Propranolol		Beta-Blockers
Hemangeol, Hemangirol, Inderal-LA		
Protriptyline		Antidepressants - Tricyclic
Protriptyline		
Quetiapine		Psychotropics 2nd Generation Antipsychotics
Seroquel		
Quinine		Antimalarials
Quaalquin		
		<u>Response to medication may be impacted by gene: G6PD</u>
		If you are taking this medication for the treatment of malaria, you may experience a specific side effect in your blood (acute hemolytic anemia). Specific blood tests (hemoglobin and hematocrit) should be closely monitored during quinine treatment. Quinine should be stopped if you develop acute hemolytic anemia.
		Source: DPWG
Rabeprazole		Proton-Pump Inhibitors (PPIs)
Aciphex, Pariet		

Rasburicase

Elitek, Fasturtec



Uricolytic Agent/Enzymes

Response to medication may be impacted by gene: G6PD

Your prescriber should not select this medication due to a high risk of a specific side effect in your blood (acute hemolytic anemia).

Source: [CPIC - A](#)**Rifampin**

Rimactane, Rofact



Antibiotics

Response to medication may be impacted by gene: NAT2

You may be at increased risk of side effects (toxicity) and increased amounts of this medication in your body from a standard dose.

Source: [PharmGKB - 1B](#)**Risperidone**

Perseris, Risperdal



Psychotropics 2nd Generation Antipsychotics

Ropivacaine

Naropin



Local Anesthetics

Response to medication may be impacted by gene: G6PD

You may be at an increased risk of experiencing a specific side effect in your blood (methemoglobinemia) if you take this medication or other medications in the same class. If this or other local anesthetics are prescribed, it is recommended that close monitoring of signs and symptoms of methemoglobinemia occurs.

Source: [FDA](#)**Rosuvastatin** Crestor,

Ezallor Sprinkle



Statins - HMG-COA Reductase Inhibitors

Salmeterol

Advair, Serevent



Selective Beta 2-adrenergic Agonists (SABAs)

Sertraline

Zoloft



Antidepressants - SSRI

Response to medication may be impacted by gene: CYP2C19 & CYP2B6

Your prescriber should initiate therapy with the recommended starting dose and consider a slower dose adjustment schedule and lower maintenance dose.

Source: [CPIC - A](#)**Sevoflurane**

Sevorane, Ultane



General & Inhalational Anesthesia

Simvastatin

Zocor



Statins - HMG-COA Reductase Inhibitors

Siponimod

Mayzent



Immunomodulatory Agents

Succinylcholine

Anectine, Quelicin



Muscle Relaxant/Neuromuscular Blocker

Sulfadiazine

Flamazine, Silvadene



Antibiotics

Response to medication may be impacted by gene: **G6PD**

The use of this medication in a cream formulation (silver sulfadiazine) may increase the risk of a serious side effect in your blood (hemolysis).

Source: [FDA](#)

Sulfamethoxazole and Trimethoprim

Septra



Antibiotics

Response to medication may be impacted by gene: **G6PD**

You may at risk of a serious side effect in your blood (hemolysis). This side effect is often related to the dose given.

Source: [FDA](#)

Sulfasalazine

Azulfidine, Salazopyrin



Immunomodulatory Agents

Response to medication may be impacted by gene: **G6PD**

You may at risk of a serious side effect in your blood (hemolysis). This side effect is often related to the dose given. If you experience a toxic or hypersensitivity reaction, you medication should be stopped immediately.

Source: [FDA](#)

Tacrolimus

Advagraf, Astagraf, Envarsus, Prograf



Immunosuppressants

Response to medication may be impacted by gene: **CYP3A4**

You may have decreased ability to process this medication (decreased metabolism).

Source: [PharmGKB-1B](#)

Response to medication may be impacted by gene: **CYP3A5**

Your prescriber should increase your starting dose 1.5x to 2x of the recommended starting dose. Your total starting dose should not exceed 0.3 mg per kg of body weight per day. Your prescriber should use blood tests specific to the medication and your response to guide dose adjustments.

Source: [CPIC - A](#)

Tamoxifen

Nolvadex-D, Soltamox



Antineoplastic Agents

Tamsulosin Flomax,













Selective Alfa-1-Adrenergic Blocking Agents

Jalyn Tetrabenazine

Nitoman, Xenazine

Monoamine Depleting Agent



Thioguanine		Antineoplastic Agents
Lanvis		
Thioridazine		Psychotropics 1st Generation Antipsychotics
Thioridazine		
Tolterodine		Antimuscarinics
Detrol		
Tramadol		Opioids
Conzip, Durela, Qdolo, Ralivia, Seglantis, Tramacet, Tridural, Ultracet, Ultram, Zytram XL		
		<u>Response to medication may be impacted by gene: CYP2D6</u>
		You may require an increased dose of this medication, however some clinical guidelines do not agree.
		Source: <u>PharmGKB - 1B</u>
Trimipramine		Antidepressants - Tricyclic
Trimipramine		
		<u>Response to medication may be impacted by gene: CYP2D6 & CYP2C19</u>
		Your prescriber should consider a 25% reduction in the recommended starting dose.
		Source: <u>CPIC - A</u>
Venlafaxine		Antidepressants - SNRI
Effexor XR		
Vitamin C		Other
MoviPrep		
		<u>Response to medication may be impacted by gene: G6PD</u>
		You may be at increased risk of a specific side effects in the blood (hemolytic reactions) when using MoviPrep, a vitamin C containing laxative product used for colon cleansing in preparation for a colonoscopy.
		Source: <u>FDA</u>
Voriconazole		Antifungals
Vfend		
Vortioxetine		Antidepressants - Others
Trintellix		
Warfarin		Antithrombotics
Coumadin		
		<u>Response to medication may be impacted by gene: VKORC1</u>
		You may require a higher dose of Warfarin. Some studies do not support this association. The best way to estimate the anticipated stable dose of warfarin is to use the algorithms available at http://www.warfarindosing.org .
		Source: <u>PharmGKB-1B</u>



Response to medication may be impacted by gene: CYP2D6

Your prescriber should prescribe 75% of the normal dose of this medication.

Source: [DPWG](#)

Analysis of Your Gene Profile

This section lists the genes tested and variants detected that are known to impact responses to the medications included in this report.

Genes are listed in alphabetical order, starting with the genes where variants impacting drug response were detected. At the end of this section, you will find a list of genes tested where NO variants known to impact responses to the drugs included in this report were detected.

GENE	VARIANT DETECTED	FUNCTION
ADRB2	rs1042713 (GA)	<p>rs1042713(A) Heterozygote</p> <p>Based on this genotype the patient may have abnormal ADRB2 function. Please consult a pharmacist for more information on how this ADRB2 genotype influences drug selection and dosing.</p>
APOE	rs7412 (CC)	<p>rs7412(C) Homozygote</p> <p>Based on this genotype the patient may have abnormal APOE function. Please consult a pharmacist for more information on how this APOE genotype influences drug selection and dosing.</p>
COMT	rs4680 (AA)	<p>rs4680(A) Homozygote</p> <p>Based on this genotype the patient may have abnormal COMT function. Please consult a pharmacist for more information on how this COMT genotype influences drug selection and dosing.</p>
CYP2C19	rs12769205 (AG) rs4244285 (GA)	<p>Intermediate Metabolizer</p> <p>This result signifies that the patient is predicted to be an intermediate metabolizer of CYP2C19 substrates. This patient may be at risk for an adverse or poor response to medications that are metabolized by CYP2C19. To avoid an untoward drug response, dose adjustments or alternative therapeutic agents may be necessary for medications metabolized by CYP2C19. Please consult a pharmacist for more information about how CYP2C19 metabolic status influences drug selection and dosing.</p>
CYP2D6	rs1065852 (AA)	<p>Intermediate Metabolizer</p> <p>Based on the genotype result this patient is predicted to be an intermediate metabolizer of CYP2D6 substrates. This patient may be at risk for an adverse or poor response to medications that are metabolized by CYP2D6. To avoid an untoward drug response, dose adjustments may be necessary for medications metabolized by CYP2D6. Please consult a pharmacist for more information about how CYP2D6 metabolic status influences drug selection and dosing.</p>
CYP3A4	rs2740574 (CC)	<p>Possible Intermediate Metabolizer</p> <p>This patient may be an intermediate metabolizer of CYP3A4 substrates and possibly at risk for an adverse or poor response to medications that are metabolized by CYP3A4. To avoid an untoward drug response, dose adjustments or alternative therapeutic agents may be necessary for medications metabolized by CYP3A4. Please consult a pharmacist for more information about how CYP3A4 metabolic status influences drug selection and dosing.</p>

CYP3A5	rs776746 (CC)	<p>Poor Metabolizer</p> <p>Based on the genotype result this patient is predicted to be a poor metabolizer of CYP3A5 substrates. This patient may be at a high risk for an adverse or poor response to medications that are metabolized by CYP3A5. To avoid an untoward drug response, dose adjustments or or alternative therapy may be necessary for medications metabolized by the CYP3A5. Please consult a pharmacist for more information about how CYP3A5 metabolic status influences drug selection and dosing.</p>
DRD2/ANKK1	rs1800497 (AA)	<p>rs1800497(T) Homozygote</p> <p>Based on this genotype the patient may have abnormal DRD2 function. Please consult a clinical pharmacist for more information on how the DRD2 genotype influences drug selection and dosing.</p>
G6PD	rs1050828 (TT)	<p>G6PD*V68M Homozygote</p> <p>This result signifies that the patient has two V68M G6PD deficient alleles. Based on this genotype the patient may have abnormal G6PD function. Please consult a clinical pharmacist for more information on how the G6PD genotype influences drug selection and dosing.</p>
HLA-A	rs1061235 (AT)	<p>HLA-A*31:01:02 Heterozygote</p> <p>A large number of HLA-A alleles have been identified and some of these alleles have been associated with reactions to a large number of different drugs. This result signifies that the patient is likely positive for the HLA-A*31:01:02 allele. Please consult a pharmacist for more information on how this genotype influences drug selection and dosing.</p>
HTR2A	rs7997012 (GG)	<p>rs7997012(G) Homozygote</p> <p>Based on this genotype the patient may have abnormal HTR2A function. Please consult a pharmacist for more information on how the HTR2A genotype influences drug selection and dosing.</p>
IFNL3	rs12979860 (CT)	<p>rs12979860T heterozygote</p> <p>This result signifies that the patient has one rs12979860T allele and one normal allele. Based on this genotype the patient may have a differential response to Hepatitis C or HIV treatment. Please consult a clinical pharmacist for more information on how the IFNL3 (IL28B) genotype influences drug selection and dosing.</p>
NAT2	rs1041983 (CC) rs1801280 (CT)	<p>Slow Metabolizer</p> <p>This patient is predicted to be a slow metabolizer of NAT2 substrates and may be at high risk for an adverse or poor response to medications that are metabolized by NAT2. To avoid an untoward drug response, dose adjustments or or alternative therapy may be necessary for medications metabolized by the NAT2. Please consult a pharmacist for more information about how NAT2 metabolic status influences drug selection and dosing.</p>
SLCO1B1	rs11045879 (TC)	<p>rs11045879(C) Heterozygote</p> <p>Based on this genotype the patient may have abnormal SLCO1B1 function. Please consult a pharmacist for more information on how the SLCO1B1 genotype influences drug selection and dosing.</p>

TYMS	rs11280056 (DELDEL)	rs11280056(Del) Homozygote Based on this genotype the patient may have abnormal TYMS function. Please consult a pharmacist for more information on how this TYMS genotype influences drug selection and dosing.
VDR	rs2228570 (GG)	rs2228570(G) Homozygote Based on this genotype the patient may have abnormal VDR function. Please consult a pharmacist for more information on how this VDR genotype influences drug selection and dosing.
VKORC1	rs7294 (TT)	Abnormal enzymatic activity This result signifies that the patient two abnormal function VKORC1 alleles (*3/*3). The best way to estimate the anticipated stable dose of warfarin is to use the algorithms available at http://www.warfarindosing.org .

No Gene Variants Identified

ABCB1	ABCG2	BCHE	CACNA1S	COMT	CYP2B6
CYP2C8	CYP2C9	CYP3A4	CYP3A5	CYP4F2	DPYD
EGFR	F5	GSTP1	HLA-B-40-01-01	HLA-B-57-01	HLA-B-58-01
HMGCR	HTR2A	MTHFR	NQO1	NUDT15	SLCO1B1
TPMT	UGT1A1	XPC			