Tailoring Medication For Every Individual

Pharmacogenomics (PGx) is the study of how genetic variations influence the way an individual responds to medications.

PGx enables doctors to test for specific genetic changes to predict whether a patient may have a normal response, a poor response or a higher risk of side effects, before prescribing a specific medication.

myDNA Personalised Medication Report

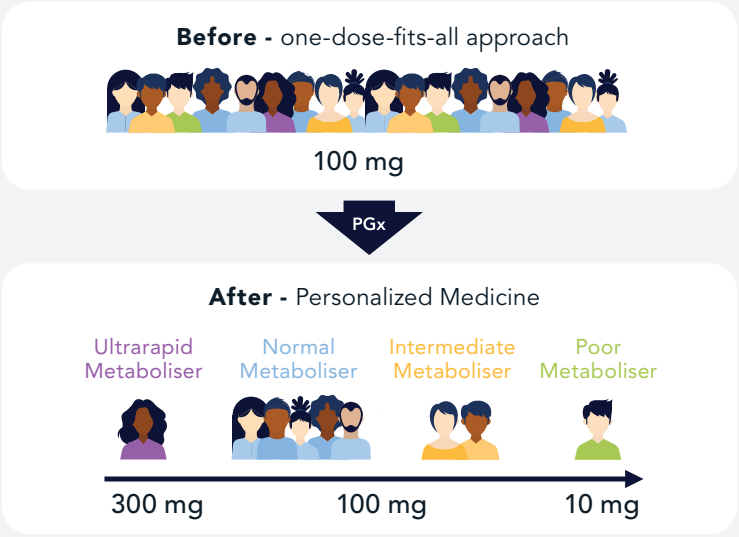
Our Personalised Medication Report covers a broad range of medication classes used in:

- Psychiatry
- Cardiology
- Pain management
- Gastroenterology

The test identifies common genetic variations in the genes encoding drug metabolising enzymes (e.g. Cytochrome P450 enzymes), which can result in changes to the activity of these enzymes.

For example, for an **intermediate or poor metaboliser,** reduced metabolism results in increased plasma concentrations of the substrate medication. This can lead to an **increased risk of side effects** and **toxicity** from standard doses.

Alternatively, a **rapid or ultrarapid metaboliser,** with overly efficient elimination of the substrate medication results in reduced plasma concentrations. This can lead to **less medication being available** for clinical effect, and **potentially therapeutic failure.**



DID YOU KNOW

Up to 1 in 10 people may process certain medications too slowly, increasing their risk of side effects[1].

Up to 1 in 3 people may process certain medications too quickly, increasing their risk of treatment failure[1].

The Potential Benefits Of The Test

- ✓ **Improve** the patient's quality of life.
- ✓ **Reduce** the number of adverse drug reactions.
- ✓ **Avoid** ineffective medications.
- ✓ **Save** the patient time and money on trial and error medicines.
- ✓ **Help** patients reach treatment goals sooner.

Patients Likely To Benefit From The Test

All patients may benefit from PGx testing, however, some patients are more likely to see an immediate benefit, including those:

- ✓ Commencing a medication covered by the test.
- ✓ With a current or past history of experiencing significant side effects to specific medications.
- ✓ Experiencing poor therapeutic response to specific medications.
- ✓ Experiencing suboptimal response to specific medications.
- ✓ Taking multiple medications.
- ✓ Requiring doses of specific medications outside the recommended range.

Clinical Evidence

Our reports are based, where possible, on the Clinical Pharmacogenetics Implementation Consortium (CPIC) and the Royal Dutch Pharmacists Association – Pharmacogenetics Working Group (DPWG). These guidelines are routinely updated, peer-reviewed, and published in relevant journals[2].

The US Food and Drug Administration (FDA) has also recently published a list of medications with pharmacogenomic associations and recommendations[3], which are referenced where relevant in our PGx report.

INDNZ0002_003

myDNA™ | indici™

Scan to find out more

myDNA Personalised Medication Report

The patient's genetic results are released via a report which provides clinically relevant information on what the patient's genetic results predict about their response to over 120 medications used in clinical practice.

All medications covered by this report are categorized as having major, minor or usual prescribing considerations based on the patient's unique PGx results.

This report provides clinically relevant information about drug metabolism and plasma concentrations (drug exposure), as well as the potential for altered clinical effects.

For each medication, the report offers an interpretation of results, as well as actionable recommendations based on international guidelines.

MEDICATIONS WITH MAJOR PRESCRIBING CONSIDERATIONS

MEDICATION	INTERPRETATION	RECOMMENDATION
Escitalopram (Antidepressants - SSRIs)	**CYP2C19 - Poor metaboliser:** Negligible metabolism of escitalopram by CYP2C19 and greatly increased drug exposure are predicted. This may increase the risk of adverse effects.	CPIC guidelines provide a moderate recommendation to consider a 50% dose reduction of the recommended starting dose and titrate to response.

Major prescribing considerations: A significant effect to drug response is predicted. There may be guidelines recommending consideration be given to a change in the dose or the medication type.

MEDICATIONS WITH MINOR PRESCRIBING CONSIDERATIONS

DRUG CATEGORY	MEDICATION	GENES	POTENTIAL CLINICAL ISSUES
Proton pump inhibitors	**Omeprazole**	**CYP2C19**	Increased therapeutic and/or adverse effects

Minor prescribing considerations: Altered drug response is possible, but the clinical significance is either thought to be minor or there is insufficient data available.

MEDICATIONS WITH USUAL PRESCRIBING CONSIDERATIONS

DRUG CATEGORY	MEDICATION	GENES	POTENTIAL CLINICAL ISSUES
Statins	**Atorvastatin**	**SLCO1B1**	No altered effect predicted by genotype

Usual prescribing considerations: Genetic results are not predicted to affect drug response, and there are no additional prescribing considerations.

References:

1. Hicks JK, et al. Clinical pharmacogenetics implementation consortium guideline (CPIC) for CYP2D6 and CYP2C19 genotypes and dosing of tricyclic antidepressants: 2016 update. Clin Pharmacol Ther. 2016.
2. Rush AJ, Trivedi MH, Wisniewski SR, Nierenberg AA, Stewart JW, Warden D, et al. Acute and longer-term outcomes in depressed outpatients requiring one or several treatment steps: a STAR*D report. Am J Psychiatry. 2006;163(11):1905-17. The CPIC guidelines are publicly available at: https://cpicpgx.org/guidelines/
3. Bousman CA, Arandjelovic K, Mancuso SG, Eyre HA, Dunlop BW. Pharmacogenetic tests and depressive symptom remission: a meta-analysis of randomized controlled trials. Pharmacogenomics. 2018;20(1):37-47

How It Works

Request the test:

Request the myDNA test from indici and your patient will receive an SMS with a unique code and link to the myDNA website.

Patients should enter their unique code when prompted during the kit registration process.

Lab Analysis

Patients receive the test via post and complete the simple cheek swab at home.

Once completed, patient send their DNA sample back to the myDNA lab analysis.

Results Ready

Results will be released to the prescribing Doctor via the Indici software platform.

If you need help to navigate the report or support with a patient's results, scan the QR code to book a consultation with our clinical team.

Some important test limitations to be aware of:

1. The test cannot determine how individuals respond to all medications in clinical use.
2. Response to medications is complex and this genetic test only looks at one aspect affecting drug response.
3. A "normal" result does not always predict the patient will respond to a medication and not experience any side effects.
4. Enzyme function can also be affected by factors other than genotype, including age, the effect of co-administered drugs (i.e., drug-drug interactions), and the presence of liver disease. These should be considered when considering the myDNA PGx Test.
5. Allergic reactions cannot be detected by this genetic test.
6. The test does not detect all known variants in the genes tested. Only common variants present in Caucasian, African and Asian backgrounds are covered.
7. If an individual carries a rare variant not covered by the test, the phenotype may be inaccurately reported. Testing for the common variants is the practice of most screening molecular genetic testing laboratories around the world.

INDNZ0002_003

myDNA™ | indici™

For enquiries and support please email - help@mydna.life

myDNA Melbourne Lab, Level 20, 627 Chapel St South Yarra, Vic 3141