Interpretation Guide
Pharmacogenomic (PGx) Report

Biron Genetics

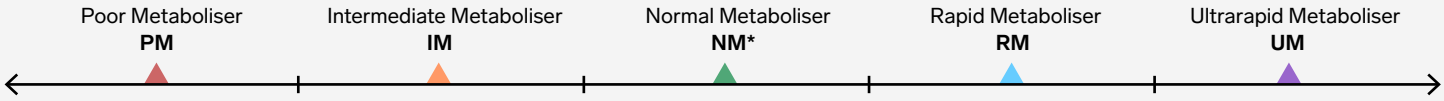
The following PGx report is a clinical decision support tool based on a genetic analysis. It contributes to better understanding and predicting the effect of pharmacotherapy with the aim of reducing the risks of adverse effects and improving its effectiveness. This test does not predict the risk of any health problem. **Response to medications is multifactorial and the clinician's professional judgment supersedes any recommendations provided.**

The report notifies you if the patient carries any variant that may alter:

- pharmacokinetics: patient **exposure** to the drug and whether an adjustment to the standard dose should be considered;
- pharmacodynamics: the potential **efficacy** of a drug and the predispositions a patient might have for certain **side effects**, allowing genetically-informed prioritization of your treatment options.

These results do not change with age, but their interpretation can evolve as new data becomes available. Therefore, the Biron PGx reports are updated periodically. These results can be useful for other medications, not covered by the test.

Nomenclature for enzyme phenotypes
(e.g., cytochrome P450s or CYP)



NM is generally used to establish standard doses. This dose could be too high for **PM/IM** or too low for **RM/UM**, justifying a consideration for dose adjustments. For a pro-drug (e.g., clopidogrel, tramadol), phenotype variability will have the opposite effect.

Inducible Metaboliser **(Ind)** - Specific for CYP1A2, which can have increased function in the presence of an inducer, such as tobacco smoke, comparable to **RM/UM**.

*While the reference phenotype is usually **NM**, please note that reference phenotype for CYP3A5 is **PM**.

Pharmacogenomic interpretations

Genetic Associations Identified

Exposure

- The patient's metabolic capacity may warrant a dose increase to achieve adequate plasma concentrations.
- The patient's metabolic capacity may warrant dose reduction to achieve adequate plasma concentrations.
- Several metabolic pathways are involved, but their capacities are opposed (e.g., PM and UM). Thus, a calculation of dose adjustments is not possible based on current data and closer monitoring is recommended.
- Drug not recommended by peer-reviewed guidelines (referenced) due to a risk of toxicity or lack of efficacy.

Efficacy

- More than 50% of tested variants are associated with an increased likelihood of a poorer response, compared to non-carriers. This medication may have limited effectiveness, justifying a consideration for other more favourable options.
- Signifies that all of the tested variants are associated with an increased likelihood of a better response, compared to non-carriers. This medication may be a good option.

Adverse Drug Reactions

- Signifies the presence of variants associated with an increased risk of particular side effects, compared to non-carriers.
- Due to the risk of severe side effects, the medication is not recommended by peer-reviewed guidelines.

The **Exposure**, **Efficacy** and **Adverse Drug Reactions** sections are interpreted independently from each other. Medications are ordered by class and predicted genetic compatibility. However, they are not compared to one another.

For more information, go to biron.com/pgxtest.

Medical Support
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