



## **Your CYP4F2 Genetic Test Results and What They Mean**

### **CYP4F2: Poor Function**

#### **Pharmacogenomic Testing Overview**

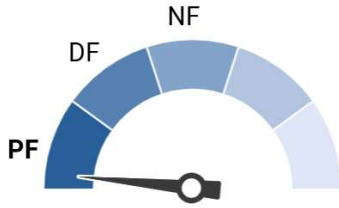
Pharmacogenomic (PGx) testing looks at how your genes affect your response to certain medications. Genes are pieces of DNA that provide instructions to make our bodies look and work as they do. Some genes affect the way medications work in the body. When comparing a group of people, there can be slight differences in the structure of each person's genes. These differences can affect how people respond to medications.

Some gene differences might make it harder for the body to get rid of some medications. This means that the usual dose of the medication may cause unexpected side effects. Some gene differences can cause the body to use up a medication too fast. This means that normal doses will not work as well, and the person may need higher doses. Some gene differences will not let certain medications work in the body at all. This means a different medication may work better. Some gene differences increase your chances of side effects to medications. This means that you may need to avoid certain medications.

This gene test may have been part of a panel of genes or a single gene test. The results and affected medications described below may not be relevant to your current care, but could be in the future.

#### **About the CYP4F2 Gene**

The test we did was for a gene called the Cytochrome P450 4F2 (abbreviated CYP4F2). This gene makes an enzyme that regulates the amount of vitamin K in our bodies. Vitamin K is crucial for our body's ability to form clots to stop bleeding. It is common to have slight variations in the CYP4F2 gene that affect how the enzyme works. Depending on these variations, people are considered to have Poor (PF), Decreased (DF), or Normal Function (NF). CYP4F2 is one of several genes that plays a role in how our body responds to the blood thinner warfarin. If warfarin is needed to treat or prevent blood clots, your healthcare provider can also analyze the results of these other genes and additional factors, like your diet, when determining what warfarin dose to choose. It is also important to note that current evidence does not support a clinical effect of CYP4F2 in pediatric patients or patients of African ancestry.



**Your CYP4F2 result puts you in the poor function group.** In people with poor function, the CYP4F2 enzyme has lower than normal activity. This may mean that you need a higher than normal starting dose of warfarin. Your healthcare provider can look at your results for additional genes and other clinical factors before deciding what dose of warfarin to use.

The following medication interacts with the CYP4F2 enzyme:

**Warfarin** (used to treat and prevent blood clots)

***Do not make any adjustments to your medications without first speaking to your healthcare provider.***

Because your genes stay the same even as you age, it is important for you to share this result with your other doctors and pharmacists outside Children's Mercy. This result may affect how doctors prescribe medications throughout your life.

#### **More Information**

- Research continues to be done on what medications are affected by genetic test results. For more details about the CYP4F2 gene, please go to [www.clinpgx.org](http://www.clinpgx.org).
- If you have questions about your pharmacogenetic test results or specific treatment options, discuss them with your healthcare provider or call 816-601-3360 to schedule an appointment at the Children's Mercy GOLDILOKs Clinic.
- If interested in volunteering for pharmacogenetic research, please contact the Children's Mercy Research Institute at [pharmacogeneticsresearch@cmh.edu](mailto:pharmacogeneticsresearch@cmh.edu).

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