Your HLA-A Genetic Test Results and What They Mean

HLA-A*31:01 Negative

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 HLA-A Gene

The test we did was for a specific version of the gene called the Human Leukocyte Antigen A 31:01 allele (abbreviated HLA-A*31:01). HLA-A plays a role in helping our immune system fight off infections. Variations in the HLA-A gene can impact our risk of severe side effects to a certain medication called carbamazepine, which is used to treat epilepsy or seizure disorders. We know patients carrying HLA-A*31:01 are at much higher risk of severe skin reactions. People are Positive or Negative for the HLA-A*31:01 allele. It is important to note that having a version of another gene, called the HLA-B*15:02 allele, also leads to an increased risk of severe skin reactions when treated with carbamazepine. If available, your healthcare provider can analyze the results of this test as well.

Your result shows that you are negative for the HLA-A*31:01 allele. In people who do not have the HLA-A*31:01 allele, they are at lower risk for severe skin reactions to the antiseizure

medication, carbamazepine, compared to people who are positive for HLA-A*31:01. Your healthcare provider can also look at your results for the HLA-B*15:02 allele. If you are negative for both the HLA-A*31:01 and HLA-B*15:02 alleles, you have a very low risk of severe skin reactions to carbamazepine and your healthcare provider can prescribe this medication, if you were to need it.

The following medication interacts with HLA-A*31:01:

Antiseizure medication (used to treat and prevent different seizure disorders): carbamazepine

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 HLA-A*31:01, please go to 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.

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