



A PERSONAL NOTE FROM DR.AMY

The Methylation Cycle, Your SNPs, and Your Test Results

THE METHYLATION CYCLE & YOUR SNPS

Our www.KnowYourGenetics.com site looks at the 30 key SNPs that I have identified as playing a role in what I call The Methylation Cycle. The Methylation Cycle is a well defined nutritional pathway in the body such that it is very clear where support can be used to bypass spots where SNPs may negatively impact the functioning of the pathway. I focus on The Methylation Cycle (and the [Nutrigenomic Test](#) I use focuses solely on genes in this pathway) because mutations or SNPs in these genes not only affect the function of the genes carrying those SNPs, they also affect the global editing function that the body relies on to help compensate for issues in the remaining 25,000 genes. Having The Methylation Cycle function optimally and bypassing SNPs in this pathway allows the global editing function in your body to help correct issues with any number of other genes in the system. The body is a beautiful organism and has a system in place to help correct or compensate for mutations or non ideal changes to your DNA. This system uses Methylation to turn on and off genes by a mechanism called 'epigenetics'. I focus on The Methylation Cycle due to the direct effects of SNPs in that pathway on a range of health concerns, as well as the more global impact of The Methylation Cycle on a huge number of other genes in the body. I believe this pathway is so critical to health that by focusing on this pathway, achieving better overall health and balancing non-ideal health issues in the body are possible. While many DNA panels work on the 'more is better' philosophy, I do not. Even if you ran a panel that looks at more than the 30 key SNPs I review, it is still only a small fraction of the total genes and SNPs in your body as you have about 25,000 genes in your body, some of which may have SNPs or mutations that impact their function.

THE IMPORTANCE OF INPUTTING YOUR TEST RESULTS INTO WWW.KNOWYOURGENETICS.COM

If you have run one of the 'more is better' tests, you can still implement The Yasko Protocol and you can find most of the SNPs I use for my panel on the test you have run. However, some of the more critical SNPs that I follow may be missing from the panel you ran. You can input your data from other companies into our free site (www.KnowYourGenetics.com) and receive a printout of the SNPs I am most concerned with. The reason to take your data and run it through this sites program is that not every company defines a plus (+) or minus (-) in the same way. What is considered normal (or in genetics terms, 'wild type') may differ between companies. A plus (+) means

A PERSONAL NOTE FROM DR.AMY

your DNA result is different from what that company considered as normal. For this reason, the program on www.KnowYourGenetics.com asks you to input the actual letter of the DNA base that was found on the test you ran. The program will then let you know if your result is something I personally consider as plus (+) or minus (-).

To explain this in a different way, I am 5 feet 3 inches tall, that is a precise measurement. Like the DNA letter assigned to a SNP on your DNA profile, my height is data. If you compare my height to my three daughters, I am taller than my youngest, shorter than my middle child, and the same height as my eldest. As a result of this comparison I would consider myself average height. However, many of the women in my hometown are actually quite tall. And so, if you compare my height to them, I would be considered short. So, depending on how you make the comparison, I might be considered average or short, or perhaps in some circumstances I might even be thought of as tall. These are all examples of *interpretations* of the actual data. What will not change is my precise measurement, which is a height of 5 feet 3 inches. This is why I suggest that regardless if you run the SNP panel I designed or run a test through another company, you should cross check whether I consider your DNA SNP result to be a (+) or a (-) as compared to what I feel is normal.

The case of the SUOX SNP is an example of why it is so important to cross check data as certain changes in DNA may have serious consequences. I believe that particular changes in SUOX are one of those that can potentially create more significant health issues. SUOX stands for Sulfite Oxidase and is the enzyme that converts Sulfite to Sulfate. If Sulfite climbs to a high level in the system it can be toxic, the role of the SUOX enzyme is to prevent this from occurring. The DNA test I use reviews what DNA base is present in a particular location of the SUOX strand of DNA. There are actually three possible options for the DNA base that can be present in this particular location. One of the DNA base options is what would be considered normal, while another possible DNA base actually increases the activity of SUOX so it works even better, and the third option represents a change that is not ideal as it impairs the ability of SUOX to function properly. These three DNA options are a demonstration of the change that we want to pay attention to.

Some labs do not realize that there are three options for SUOX as usually we only see two options for the various SNPs for other genes. As a result, many labs will consider the second version of the DNA base that actually increases the activity of SUOX so it works even better as a plus (+). However, the SUOX + that I am concerned about is the third version, where the enzyme does not function properly. Whether SUOX is normal or works better than normal, in my experience those are less of an issue. The SUOX that I consider as plus (+) is the DNA base change for SUOX in a precise location that impairs the enzyme function. It is the SUOX with reduced activity that we want to watch for, and if you are told that you are SUOX + you should be sure that it is actually due to an enzyme with reduced activity. In all the tests I have looked at I have never seen SUOX ++ where the change is actually due to two copies of the enzyme with reduced activity. I believe that impaired SUOX activity is such a health issue that having two copies of SUOX with reduced activity may be lethal. In addition, mutations in some of the genes that come after SUOX in terms of Sulfite processing are in fact lethal and result in infant mortality.



A PERSONAL NOTE FROM DR.AMY

This is just one example of why I suggest you input the DNA base data you receive from other labs into our free site (www.KnowYourGenetics.com) site to determine if the plus (+) or minus (-) is what I would consider normal or not. Your lab may interpret it in another way, and your lab may or may not have reviewed the ramifications of the change or analyzed biochemical tests in conjunction with DNA SNP results to have seen the impact of those SNPs. I am not casting aspersions on labs that do not recognize the difference between SUOX with increased activity versus SUOX with reduced activity as a plus (+). Even the lab I initially worked with dispensed results listing SUOX ++ upon finding two copies of SUOX with increased activity. However, at this time I only consider it as SUOX + if the plus (+) represents a change in the DNA such that the SUOX enzyme has a reduced ability to function. As always, consult with your health care professional.

With love and hope for health always,


Dr. Amy

