GPL-SNP1000: DNA Sequencing Profile

GPL-SNP1000 is the most comprehensive test for alterations in the genetic code in the pathways that are most important for integrative medicine. Previous to GPL-SNP1000, most genetic tests have only looked at a small subset of genes and very few SNPs (single-nucleotide polymorphisms). GPL-SNP1000 includes over 1,000 different SNPs and over 144 different genes in these 9 pathways:

- **DNA Methylation**
- **Oxalate Metabolism**
- **Mental Disorders / SAM-E/B12 Metabolism**
- **Gluten Opioid Peptide Homeostasis**
- **Autism Spectrum Genes**
- **P450s (cyps)**
- **Cholesterol Deficiency**
- **Acetaminophen Toxification / Detoxification**
- **Transporter Genes**

GPL-SNP1000 will help you understand how these nine genetic pathways are performing in your patients. It will also help you determine your patients' predisposition for developing various disorders, including ADHD, adverse drug reactions, allergies, anxiety, arthritis, autism spectrum disorders, bipolar disorder, cancer, depression, heart disease, osteoporosis, oxidative stress, and schizophrenia. Test results will help guide you to better and more personalized treatments for your patients.

Contact Us

www.GreatPlainsLaboratory.com
(913) 341-8949
sales@gpl4u.com

GPL vs. Amy Yasko

	GPL-SNP1000	AMY YASKO
DNA Methylation	105	21
Oxalate Metabolism	32	8
Mental Disorders	53	0
Gluten Opioid Peptides	48	0
Autism Spectrum Genes	252	0
P450s (cyps)	241	0
Cholesterol Deficiency	101	1
Acetaminophen	72	0
Transporter Genes	130	0

Our scientists looked at many studies to determine what mutations are commonly found in many chronic conditions, but not found in the general public and selected 1034 SNPs in 144 genes, specific to risk for autism, heart disease, mental health and more.

Pathway
DNA Methylation The methylation pathway is the complex process by which carbons are added onto folic acid and redistributed onto other compounds in the body. This pathway is responsible for the formation of methionine and thymidylate monophosphate (dTMP). These compounds play critical roles in nucleotide synthesis, neurotransmitter function, detoxification, and numerous other processes. The recycling of carbons for use in the methylation pathway is critical for cellular function. These enzymes are coded for on the end of the 21st chromosome, making them more susceptible to mutations.
Oxalate Metabolism Everyone obtains oxalates from three sources: liver cells (endogenously), yeast species (exogenously), and food (also exogenously). The degree to which an individual is predisposed to having adverse consequences from high levels of oxalate is influenced by their ability to metabolize oxalates. Deposition of oxalates in critical tissues such as brain and blood vessels, and the oxidative damage caused by oxalate salts can lead to symptoms of pain, nephrolithiasis, and possibly neurological symptoms.
Mental Disorders / SAM-E/B12 Metabolism The mental health panel identifies mutations to many of the genes that influence mental health. The enzymes in this panel either degrade or modify many different types of neurotransmitters. Mutations to these genes can cause an increased risk of developing depression, schizophrenia, anxiety, and bipolar disorder.
Gluten Opioid Peptide Homeostasis The gluten sensitivity panel looks at a large portion of the genes that if mutated, could lead to gluten sensitivity. Mutation in any of these genes may indicate the need to limit or eliminate gluten from the diet. Gluten sensitivity can manifest in a variety of symptoms. Many patients with autism spectrum disorder report neurological benefits upon switching to a gluten-free diet.
Autism Spectrum Genes Autism spectrum disorder (ASD) is a developmental disability that is characterized by unique cognitive and behavioral symptoms that vary in degrees of severity. Recently, there have been multiple studies that have identified a series of genetic mutations that are more commonly found in patients with ASD than found in the general population. If a patient has one of these mutations, it does not mean that he/she will develop ASD, but their risk for developing ASD may be higher than the general public.
P450s (cyps) The cytochrome P450s are a family of monooxygenase enzymes that are expressed throughout the body, but are most prevalent in the liver. They detoxify exogenous chemicals (including medical drugs) and the metabolize endogenous chemicals including hormones, neurotransmitters, cholesterol, and vitamins. Mutations to some of the P450s could alter the appropriate dosage for many medications and could have long-term health consequences.
Cholesterol Deficiency (synthesis/absorption/transport) Cholesterol is a very important molecule for the body. It is used to produce crucial hormones, vitamins, secondary messengers, and bile acids. Low values are associated with increased violent behavior, suicide, depression, anxiety, bipolar disease, Parkinson's disease, and increased mortality from cancer. Low cholesterol values are also associated with manganese deficiency, celiac disease, hyperthyroidism, liver disease, malabsorption, and malnutrition.
Acetaminophen Toxification/Detoxification Acetaminophen (Paracetamol, Tylenol) is one of the most commonly used pain relievers. Proper metabolization of acetaminophen is critical to preventing toxicity and any resulting damage. Genetic mutations that cause an increase in the metabolite NAPQI or that limit the body's ability to detoxify acetaminophen will make a person more susceptible to adverse effects from acetaminophen usage.
Transporters Transport proteins are important for shuttling molecules across cellular membranes. Mutations to transporter genes impede the ability of cells to uptake vital nutrients and export toxic substances. There are numerous diseases associated with faulty transport including Alzheimer's disease, coronary artery disease, aggressive behavior, and decreased drug efficacy.