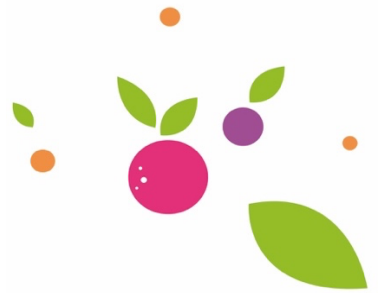




## Genetic Report

Prepared For:

Name: Sample  
Birthdate: January 1, 2001  
Vial Number: NT000000  
Report Date: August 2, 2021



## How To Read This Test

In this report, approximately 40 genetic variations (single nucleotide polymorphisms) are tested and reported for you in an understandable format. The basic functions of these variations are outlined throughout the report; however, if you want a more in depth understanding of each one we invite you to visit our blog referenced below. There, we provide references and detailed information about how each variation interacts in your body. You will see how each of these variations play a role in the different phases of growth – from conception through adulthood. Foods, supplements, or lifestyle tips are provided on each page. Please consult with your healthcare provider before making changes that may affect your medical care. Nothing in this report is intended to diagnose, treat, cure, or prevent disease. Pairing this report with annual labs, especially micronutrient testing, is an excellent way to optimize your wellness care. At NutriTots, we believe that health education is vital. That is why we are proud to offer this wellness genetic test to act as an education aid for you and your family.

**Genetic Testing** – This test only looks at your DNA. It does not test for actual nutrient deficiencies, neurotransmitters, diseases, or epigenetic expression. This is purely your genetic blueprint, which tells us your potential for certain biochemical changes. You will find recommended testing on each page if you would like to use this information to work with a healthcare provider.

**Variant** – A variant is a small change in allele pairing. This genetic variation alters the way a gene functions. For example, if a gene's purpose is to make an enzyme that breaks down a certain vitamin, a variation may make that enzyme less effective; thus, creating potential for vitamin deficiency. This test looks at variations within each gene listed by category. Caveat: Some people use the term “mutation” instead of “variant,” but we reserve that word for genetic mutations that cause disease (i.e., Hemophilia) – things for which we do not test. The negative connotation often associated with the term “mutation” is something we believe should be avoided when discussing genetics related to diet and lifestyle.

**Your Results:** You will find your results at the top of each page.

**Gene** – This is the name of each gene tested.

**RSID** – This is a specific identification code for a gene.

**Allele** – Your inherited portion of the gene that is tested.

**Risk** – How your allele determines function.

**Recommendations** – The tests we recommend performing with a healthcare provider.

For more information visit our blog at: [www.nutritots.com](http://www.nutritots.com)



**Your Vitamin A Genetic Results:**

Gene	RSID	Allele	Risk	Recommendation
BCMO1	rs6564851	TT	Low risk of Vitamin A deficiency.	Micronutrient Test
BCMO1	rs6420424	GG	Low risk of Vitamin A deficiency.	Micronutrient Test
BCMO1	rs11645428	AA	Low risk of Vitamin A deficiency.	Micronutrient Test

**Basic Information about Vitamin A & Genes:**

Vitamin A is a fat soluble vitamin, meaning it is transported and metabolized along with fat in the body. Vitamin A obtained in fruits and vegetables, called carotenoids, is actually the inactive form of the vitamin. The active and most usable form of Vitamin A, retinoids, is in specific animal products, such as grass-fed beef, pasture-raised eggs, and wild-caught salmon. The genes tested in this report make it difficult for a person to convert the inactive form into the active form of Vitamin A. This means that if you have genetic variations listed above you will need to concentrate on eating the foods with active Vitamin A. You can and should still consume fruits and vegetables that are high in beta-carotene (the main type of carotenoid), but you could be deficient in Vitamin A with these genetic variations if you do not consume animal products. Vitamin A supplements in the retinol form do have a toxic upper level, meaning you can overdose. Do not consume more than 2000 IU on a daily basis when supplementing without the support of a healthcare provider. Active Vitamin A supplements should always be suspended in an oil base.

**Vitamin A Throughout Life:**

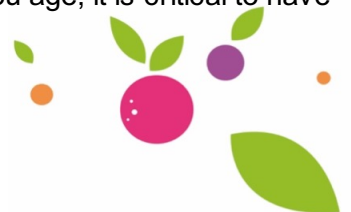
**Trying To Conceive:** Vitamin A is necessary for immune function and gastrointestinal health. Consuming foods high in retinoids during the TTC timeframe may help increase sperm count for men and help thyroid function for women.

**Pregnancy:** Vitamin A is important for fetal eye health, maternal immune health, and maternal gastrointestinal health. Research suggests that pregnant women are prone to Vitamin A deficiency in the third trimester. Low dose supplementation is generally considered safe during all three trimesters.

**Birth to 3 Years:** Vitamin A for infants is considered protective for immune health. While they should breastfeed as long as possible, you can consider foods high in active Vitamin A once they start solids. Introducing pureed beef liver or fish after the age of 12 months can be useful for Vitamin A levels. Do not supplement with Vitamin A before 12 months.

**4 Years to 17 Years:** Vitamin A for children is beneficial for proper growth and immune health. Often, children with short stature can be deficient. Also, diseases such as measles are prevalent in deficient children. As they become teenagers, hormonal changes may be greatly affected if Vitamin A deficiency is present. Acne is one of the main symptoms seen, as is difficulty with viruses and bacterial infections.

**18 Years+:** Vitamin A for adults is critical for hormones, immune health, and gastrointestinal health. The most common symptoms associated with deficiency includes thyroid dysfunction and IBS. As you age, it is critical to have annual lab work that monitors vitamin deficiencies.



**Your Vitamin D Genetic Results:**

Gene	RSID	Allele	Risk	Recommendation
GC	rs2282679	TT	Low risk of Vitamin D deficiency.	Inactive and Active Vit. D Test

**Basic Information About Vitamin D & Genes:**

Vitamin D is a fat soluble vitamin, meaning it is transported and metabolized along with fat in the body. It is a critical nutrient for immune function and bone health. Vitamin D is often considered one of the most common nutrient deficiencies. While Vitamin D is readily synthesized from sunlight, it is often difficult to maintain levels due to climate conditions (cold, rain, etc.), the use of sunscreen, or genetic variations. The gene assessed in this test is directly linked to Vitamin D deficiency, as it controls the capacity for Vitamin D binding within the cell. Foods that are high in Vitamin D include grass-fed beef, wild-caught salmon, pasture-raised eggs, and sardines. Mushrooms are the only plant source of natural Vitamin D, as all others are fortified. Taking Vitamin D as a supplement may be beneficial with this genetic variation; however, consult your physician to assess your blood levels. There is a toxic upper level of supplementation, so be aware of your lab values. A safe range is less than 2000 IU daily for adults, 1000 IU for children ages 4-17, and 400-800 IU for babies – 3 years.

**Vitamin D Throughout Life:**

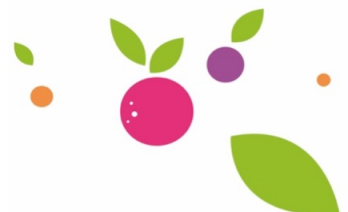
**Trying To Conceive:** Low levels of Vitamin D have been linked to infertility issues in both men and women. Deficiency may lead to poor implantation of an embryo, lower levels of progesterone, and poor uterine lining.

**Pregnancy:** Vitamin D aids in building healthy bones and teeth, and it protects the immune system. Low levels of Vitamin D during pregnancy have been linked to issues such as pre-term birth, pre-eclampsia, and gestational diabetes. Once pregnant, Vitamin D aids in the production of immune system organization for the fetus to help combat infections.

**Birth to 3 Years:** Infants tend to naturally have lower stores of Vitamin D for the first few months of life. They usually receive this nutrient in breastmilk and from their own production of the nutrient when taken outside in the sunshine. However, if a breastfeeding mother has low levels of Vitamin D, the infant may not be receiving adequate amounts of this vitamin in their diet. Symptoms may include bowed legs, seizures, pale skin, or respiratory issues.

**4 Years to 17 Years:** Vitamin D needs increase during this time as children enter into bigger growth phases and become taller. Symptoms of deficiency include pale skin, “growing pains,” short stature, and chronic colds/flu.

**18 Years+:** Adult needs of this nutrient may vary. If recovering from a bone surgery or if certain issues, like obesity, diabetes, or Celiac Disease are present, Vitamin D needs may increase from the normal recommended dosing. Vitamin D deficiency is linked to most autoimmune diseases. Consider annual lab work to assess your nutrient levels.



**Your Vitamin E Genetic Results:**

Gene	RSID	Allele	Risk	Recommendation
INTERGENIC	rs12272004	CC	High risk of Vitamin E deficiency.	Micronutrient Test

**Basic Information About Vitamin E & Genes:**

Vitamin E (tocopherols) is a fat soluble nutrient, which means it is transported and metabolized with fats throughout the body. The health status of the liver actually determines how much Vitamin E is needed for each individual person, as it secretes alpha-tocopherol as necessary. As a whole, Vitamin E helps reduce oxidative stress in the body, which is protective against cardiovascular disease and cancer. The gene tested in this report directly affects Vitamin E secretion into the bloodstream. Variations are linked to lower levels of serum Vitamin E, which may allow for greater oxidative stress. Foods high in Vitamin E include wheat germ, roasted almonds, hazelnuts, spinach, and soy. Those with gluten-intolerance are exceptionally prone to Vitamin E deficiency, and it has been linked to neurological concerns. Most multivitamin supplements contain adequate Vitamin E levels for all age groups; however, topical liquid Vitamin E suspended in oil can be useful for skin conditions (burns, rashes, etc.).

**Vitamin E Throughout Life:**

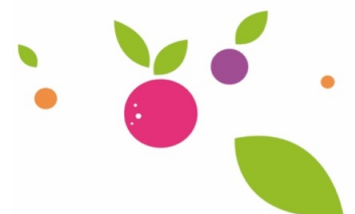
**Trying To Conceive:** Vitamin E has been shown to play a role in overall male reproductive health and it may aid in sperm production and mobility. Its antioxidant properties help reduce inflammation and oxidative stress in both men and women. You should be able to get adequate levels from a prenatal at this stage.

**Pregnancy:** This nutrient works synergistically with Vitamin C to combat oxidative stress within the body. Oxidative stress has been linked to pre-eclampsia and other pregnancy complications. Vitamin E dosage is generally adequate in a prenatal supplement.

**Birth to 3 Years:** Premature babies may need Vitamin E to combat issues due to their preterm birth. Vitamin E has been found to be in higher quantities in the breastmilk of mothers whose children have been born preterm. This is suggested to aid in the health needs of these children, such as anemia.

**4 Years to 17 Years:** Vitamin E deficiency has been linked to skin disorders in children. If eczema or psoriasis is a concern, consider using Vitamin E as a topical ointment. Vitamin E deficiency can also appear with cracked or brittle hair and nails.

**18 Years+:** Vitamin E has been linked to both ocular health, brain health, and cardiovascular health. Generally, additional Vitamin E is not necessary in supplement form. If you are taking any blood thinning medications, consult with your physician before using Vitamin E in supplement form. Consider annual lab work to assess your nutrient needs.



**Your Vitamin K Genetic Results:**

Gene	RSID	Allele	Risk	Recommendation
CYP4F2	rs2108622	TT	High risk of Vitamin K deficiency.	Micronutrient Test

**Basic Information About Vitamin K & Genes:**

Vitamin K is well known for its blood clotting properties and is necessary for bone health. This vitamin is found in multiple forms, but the most studied include K1 and K2. The best food sources for K1 are green leafy vegetables. The best food sources for K2 include animal products and fermented foods, especially natto, as the bacteria in the fermentation process is required for K2 production. The gene assessed in this report is most often studied for its effects on blood clotting medications; however, a variation in this gene is known to reduce the capacity for Vitamin K1 conversion from food sources and supplementation. With this variation, Vitamin K supplementation in the form of K2 may be utilized to offset the inability of the liver to convert K1 from food based sources. However, if blood clots are a risk factor for you at any stage of life, speak with your physician before using Vitamin K supplements. Generally, you will find Vitamin K2 in supplement form with other fat soluble vitamins, especially Vitamin D.

**Vitamin K Throughout Life:**

**Trying To Conceive:** There is no evidence of Vitamin K’s effects directly on conception. Priming the body with prenatal vitamins at least three months prior to trying to conceive may prove beneficial in general.

**Pregnancy:** Vitamin K plays a role in clot formation. Low levels may increase a tendency to hemorrhage. Prenatal vitamins tend to have adequate levels of this nutrient.

**Birth to 3 Years:** Newborns do not have adequate Vitamin K storage and are at a higher risk of bleeding disorders. Breastmilk tends to have low levels of Vitamin K, so exclusively breastfed infants are prone to lower levels of this nutrient until the age of 6 months, which is when they begin to store the nutrient.

**4 Years to 17 Years:** Outward signs of Vitamin K deficiency include heavy menstrual periods, bruising, bleeding gums, and bleeding in the GI tract.

**18 Years+:** People with Crohn’s disease, Celiac disease, and Cystic Fibrosis may have an impairment in Vitamin K absorption.



**Your Vitamin C Genetic Results:**

Gene	RSID	Allele	Risk	Recommendation
SLC23A2	rs1279386	AA	Low risk of Vitamin C deficiency.	Micronutrient Test
SLC23A1	rs33972313	CC	Low risk of Vitamin C deficiency.	Micronutrient Test

**Basic Information About Vitamin C & Genes:**

Vitamin C is a nutrient that can only be obtained by outside sources, such as food and supplementation. Since its antioxidant properties aid in the reduction of free radicals within the body, it is beneficial to include a wide variety of Vitamin C containing foods in your diet. Foods that are high in Vitamin C include citrus fruits, green leafy vegetables, cabbage, tomatoes, and squash. The genes tested in this report are associated with Vitamin C deficiencies. Over all, Vitamin C is linked to immune health, heart health, and musculoskeletal health. Supplementing with Vitamin C may be necessary during the various stages of life; however, there is often an upper limit to how much one can tolerate. If Vitamin C supplementation causes diarrhea, you should consume at least 250mg less than the dose that cause bowel intolerance.

**Vitamin C Throughout Life:**

**Trying To Conceive:** Vitamin C helps with iron absorption and progesterone production. It is also a powerful antioxidant. In men, it may aid in sperm production and motility.

**Pregnancy:** Vitamin C reduces the risk of placental abruption during pregnancy. It also aids in collagen and tissue development in the fetus. Be cautious with too much Vitamin C during pregnancy, as it can have abortive qualities. Consult with your physician if you need more than a daily wellness dose.

**Birth to 3 Years:** Babies generally do not require additional Vitamin C, as it is added to baby formulas. However, if you are breastfeeding, additional Vitamin C may be required to meet your child’s daily needs. Children ages 1 – 3 years can safely consume wellness dosing if supplementation is necessary. Vitamin C aids in overall immune health. Deficiencies can cause symptoms such as bleeding gums, easy bruising, and fatigue.

**4 Years to 17 Years:** As the child grows, so does their Vitamin C needs. Eating a variety of foods will broaden the palate as the child ages, and they will most likely continue to consume a variety of healthy foods into adulthood. Symptoms associated with Vitamin C deficiency at this stage include frequent colds/flu, “growing pains,” moodiness, anxiety, and apathy. Vitamin C can act as a supportive nutrient for neurotransmitter production in young children and teenagers who may be struggling in school or social settings.

**18 Years+:** Vitamin C aids in bone, cartilage, muscle, and blood vessel health. Deficiencies often present as joint or muscle pain, hypertension, and mood disorders. Consider annual lab work to assess your nutritional needs.





**Your Folate Genetic Results:**

Gene	RSID	Allele	Risk	Recommendation
MTHFR 1298	rs1801131	GT	Moderate risk of Folate deficiency.	RBC Folate, Homocysteine
MTHFR 677	rs1801133	GG	Low risk of Folate & B2 deficiency.	RBC Folate, Homocysteine
SLC19A1	rs1051266	CC	High risk of Folate deficiency.	RBC Folate, Homocysteine

**Basic Information About Folate & Genes:**

Folate, or Vitamin B9, is an important nutrient for over 200 processes in the body. The genes in this test specifically function as folate conversion genes and folate transport genes. MTHFR helps to convert folate from your food into usable, active folate (known as methylfolate or 5-MTHF). When you have a variation in this gene, you are less efficient at converting folate from your food, which can lead to deficiency. SLC19A1 is a folate transporter gene, which moves active folate into your cells for use. When you have a variation of this gene, you are more likely to have folate deficiency. The foods highest in folate include green leafy vegetables, legumes, avocados, pasture-raised eggs, and asparagus. Consume at least 5 servings of fruits and vegetables daily. If you need to supplement, start with lower levels (200-400mcg) of methylfolate or folic acid (aka calcium folinate) in a multivitamin form. During pregnancy, your needs may require more folate, specifically between 800mcg – 1000mcg. Minimize folic acid use, as it is the synthetic form and less efficient than the other forms.

**Folate Throughout Life:**

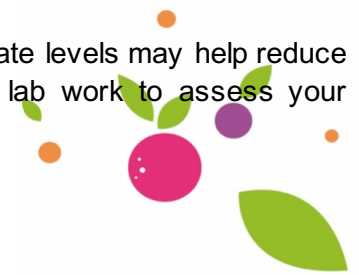
**Trying To Conceive:** Having adequate levels of folate may increase your likelihood of getting pregnant. Studies suggest that folate may help increase sperm count in men and egg quality in women. Men who are taking acid-reducing medications have been shown to have folate deficiency and smaller sperm count. Both men and women should take a prenatal during the TTC phase.

**Pregnancy:** Folate is necessary to reduce the risk of birth defects. Studies suggest folate is necessary for proper brain and spinal cord development. Deficiencies can cause neural tube defects, cleft palate, miscarriages, and blood clotting conditions. A prenatal should be consumed during this time.

**Birth to 3 Years:** Folate helps the body grow healthy cells through DNA replication. During this stage of life, cells are constantly turning over every few days. Adequate folate allows for this synthesis to occur. Deficiencies at this age can look like failure to thrive or anemia. Consume foods high in folate or use fruit/veggie blends once foods are introduced.

**4 Years to 17 Years:** As children continue to grow, folate helps maintain a healthy balance of hormones, neurotransmitters, and immune health. Deficiencies at this stage may look like anemia, neurological disorders, or immune disorders. Children often complain of migraines or anxiety when deficient. Consider a multivitamin or fruit/veggie blend if supplementation is needed.

**18 Years+:** As stated above, folate is needed for over 200 processes in the body. Adequate levels may help reduce heart disease, mental health issues, and environmental sensitivities. Consider annual lab work to assess your nutrient levels.





### Your Vitamin B12 Genetic Results:

Gene	RSID	Allele	Risk	Recommendation
MTRR	rs1801394	GA	Moderate risk of Vitamin B12 deficiency.	Methylmalonic acid
MTRR	rs1532268	CT	Moderate risk of Vitamin B12 and Folate deficiency.	Methylmalonic acid
CUBN	rs1801222	GG	Low risk of Vitamin B12 deficiency.	Methylmalonic acid, Anemia
FUT2	rs601338	GG	High risk of Vitamin B12 deficiency.	Methylmalonic acid, Stool

### Basic Information About Vitamin B12 Genes:

Vitamin B12 is necessary for a variety of functions in the body, especially neurological health and energy. The genes assessed in this test often lead to B12 deficiency when a variant is detected. B12 can become deficient for several reasons. Most commonly, heavy alcohol use, Celiac Disease, and vegan diets are linked to B12 deficiency. The best food sources of B12 are animal products, especially grass-fed beef, sardines, clams, tuna, eggs, and dairy. Non-animal based products are fortified with Vitamin B12, especially nutritional yeast, nondairy alternatives, and grains. If you have variants in these genes and have symptoms, consider supplementing with the methylcobalamin form of B12. This is the most active form. Other options include hydroxocobalamin and adenosylcobalamin; however, each form of B12 can be used for different purposes. Avoid cyanocobalamin, as it is synthetic. A basic multivitamin should contain adequate levels for most wellness routines at all ages.

### Vitamin B12 Throughout Life:

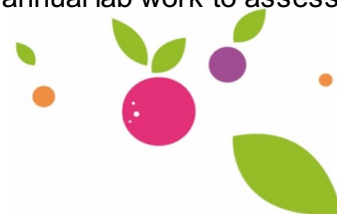
**Trying To Conceive:** Vitamin B12 has been linked to egg quality during fertility treatments. Adequate levels in both men and women may make it easier to conceive. Deficiency in B12 has been linked to infertility in women. Men who are taking acid-reducing medication have been shown to have B12 deficiency and smaller sperm concentration. Both men and women should take a prenatal during this phase.

**Pregnancy:** Vitamin B12 deficiencies can lead to neural tube defects in the baby, anemias, and numbness/tingling in mom. It is also linked to postpartum depression. Your prenatal should have adequate levels.

**Birth to 3 Years:** Since B12 is necessary for neurological health and energy, deficiencies in children at this age can often be difficult to notice. Failure to thrive and anemia are the most outward signs of B12 deficiency. While supplementation is not necessary under the age of 12 months, foods high in B12 should be introduced. After the age of 1 year, a children's multivitamin could be used.

**4 Years to 17 Years:** In this age range, B12 deficiency is often noted when a child fails to maintain proper growth. Short stature is linked to Vitamin B12 deficiency, as is anemia, anxiety, depression, and migraines. Research also suggests a link between B12 deficiency and ADHD, SPD, and ASD.

**18 Years+:** In adults, B12 deficiencies are common and usually present after the use of specific medications. Acid-reducing drugs and birth control are linked to B12 deficiency. Gluten-sensitivity is often a hidden cause of B12 deficiency. Fatigue is the #1 symptom first noticed by people with B12 deficiency. Consider annual lab work to assess your nutrient levels.



**Your Vitamin B6 Genetic Results:**

Gene	RSID	Allele	Risk	Recommendation
NBPF3	rs4654748	TT	Low risk of Vitamin B6 deficiency.	Micronutrient Test

**Basic Information About Vitamin B6 Genes:**

Vitamin B6 is often considered vital for neurological health, especially neurotransmitter production. Found in foods such as hazelnuts, fish, green leafy vegetables, legumes, garlic, and sweet potatoes, B6 is relatively easy to come by with a varied diet. Taking B6 as P-5-P or Pyridoxine HCL is a simple way to increase your levels; however, food sources are often adequate. Supplemental B6 can have a toxicity associated with too much, so if you notice pins/needles in your feet and hands after taking a supplement, it may not be appropriate for you.

**Vitamin B6 Throughout Life:**

**Trying To Conceive:** Vitamin B6 is linked to the strength of the uterine lining and progesterone levels, so maintaining adequate levels is crucial for conception. It is also linked to a healthy ovulation cycle.

**Pregnancy:** During this time, B6 is often thought of as the anti-nausea and anti-vomiting nutrient. Taking 25mg three times daily is often recommended for those symptoms. Also, adequate levels aid in fetal brain development. Since B6 is also required for healthy serotonin and norepinephrine levels, mood stability and postpartum depression may be helped with B6 supplementation.

**Birth to 3 Years:** While rare, a B6 deficiency in newborns has been linked to a specific type of seizure. Vitamin B6 continues to help with the health of the nervous system and metabolism of neurotransmitters at this stage. Supplementation, however, is not often needed beyond general formulas and/or multivitamins.

**4 Years to 17 Years:** As the child grows, signs of B6 deficiency may become more obvious. Skin rashes, mood changes, and poor immune function are the most common. Consume a variety of foods, such as the ones listed above, and consider a multivitamin. For children, it is important that B6 is taken in addition to other B vitamins and minerals. If your child is a picky eater, using a fruit/veggie supplement may help.

**18 Years+:** As you grow into adulthood, the signs and symptoms of B6 deficiency remain the same. Eat a well-balanced diet, especially one with fish, nuts, and vegetables to get enough B6. If symptoms occur, consider annual lab tests to assess your need for supplementation.



**Your Vitamin B2 Genetic Results:**

Gene	RSID	Allele	Risk	Recommendation
MTHFR 677	rs1801133	GG	Low risk of Folate & B2 deficiency.	Micronutrient Test

**Basic Information About Vitamin B2 Genes:**

Riboflavin (Vitamin B2) goes hand in hand with all other B Vitamins, especially folate. They work together in a variety of ways, but B2 is often known for eye health, skin health, and cardiovascular health. When B2 is deficient, it increases the potential for folate and B12 deficiencies. Foods rich in B2 include roasted almonds, spinach, oats, peas, wild-caught fish, pasture-raised eggs, and grass-fed beef. Consuming these foods provides adequate levels of B2; however, supplementation may be necessary at different stages of growth. A multivitamin or prenatal is generally considered adequate.

**Vitamin B2 Throughout Life:**

**Trying To Conceive:** Studies suggest that B2 may play a role in sperm motility and quality of the egg. Adequate levels are often found in a healthy diet; however, prenatal vitamins may be consumed during the TTC stage.

**Pregnancy:** Riboflavin deficiency may increase preeclampsia in women who have the MTHFR 677 genetic variant. It is important to get adequate levels to protect against hypertension. Vitamin B2 also protects eye and skin health for mom and baby.

**Birth to 3 Years:** Riboflavin deficiency in newborns and young children are often noticed when checked for anemia. Consider adding fish and beef liver to their pureed foods when introducing solids. Breastmilk and formula should also provide adequate levels.

**4 Years to 17 Years:** Eczema, rashes, cracked lips, migraines, and a loss of hair tend to be the symptoms associated with B2 deficiency at this age. Since Riboflavin is easily found in plant-based foods, adding a pea protein or fruit/veggie blend supplement is a good source of this nutrient.

**18 Years+:** Lactose intolerance is one of the leading causes of Riboflavin deficiency in adults. The symptoms remain the same as stated above: cracked lips, skin rash, migraines, and loss of hair. Research suggests that Riboflavin used separately for adults may decrease migraine headaches. Consider annual lab work to assess your nutrient levels.



**Your Choline Genetic Results:**

Gene	RSID	Allele	Risk	Recommendation
PEMT	rs7946	TT	High risk of Choline deficiency.	Micronutrient Test
FADS1	rs174548	CC	Low risk of Choline deficiency.	Micronutrient Test

**Basic Information About Choline Genes:**

Choline is a nutrient required for every cell in the body. It is used to protect cell membranes, aid in neurotransmitter production, and protect liver health. Foods highest in choline include egg yolks, liver, fish, meat, dairy, brussels sprouts, and fermented soybean. The genes assessed in this test are specifically linked to phosphatidylcholine deficiency, which may create a variety of health conditions. Supplementation of this nutrient is especially important during pregnancy, so make sure it is in your prenatal vitamin. Children who have egg allergies may need to consider choline supplementation.

**Choline Throughout Life:**

**Trying To Conceive:** Since choline is necessary for healthy cell membranes, it would make sense that it is required for conception. Choline may help protect the integrity of both sperm and the egg. For both men and women, choline helps control homocysteine levels, which is linked to heart health.

**Pregnancy:** Choline may help reduce the risk of pre-eclampsia and neural tube defects. Pregnant women have a higher need for choline, so a prenatal vitamin that contains at least 150mg per day is necessary. Additional support may be required if you cannot eat the foods high in choline. In addition to regular fetal development, research suggests that children born to mothers with high levels of choline have greater processing speeds and are at less risk of developing dementia later in life.

**Birth to 3 Years:** A newborn who has received adequate levels of choline in utero is less likely to be stressed in the beginning stage of life. With better processing speeds and healthier livers, newborns are able to develop on target when choline (and other nutrients) are sufficient during pregnancy. Children are likely to show signs of hyperactivity and poor memory when deficient.

**4 Years to 17 Years:** As children age and enter school, poor working memory and hyperactivity becomes the most obvious signs of choline deficiency. Also, children with deficiency are more likely to develop non-alcoholic fatty liver disease if they are fed a “Standard American Diet.” It is not uncommon for depression and anxiety to also affect children with deficiency.

**18 Years+:** The most researched health concerns linked with adults and choline deficiency include non-alcoholic fatty liver disease, heart disease, and dementia. It is important to assess your homocysteine levels and nutrient deficiencies yearly with lab work.



**Your Fatty Acids Genetic Results:**

Gene	RSID	Allele	Risk	Recommendation
MYRF	rs174537	TT	High risk of Omega 3 Fatty Acid deficiency.	Omega Count
FADS2	rs1535	GA	Moderate risk of Omega 3 Fatty Acid deficiency.	Omega Count

**Basic Information About Fatty Acids Genes:**

Fatty Acids are a necessary nutrient for overall wellness. Heart and brain health depends on the levels of anti-inflammatory fatty acids circulating in the blood stream. Specifically, Omega 3 Fatty Acids are known for their role in reducing inflammation and oxidative stress. The genes assessed in this report are linked to altered ratios of Omega 6 Fatty Acids (pro-inflammatory) to Omega 3 Fatty Acids (anti-inflammatory). While consuming wild-caught fatty fish is the best source of Omega 3 Fatty Acids, supplementing with fish oil or vegan alternatives may also help. Other foods, such as flax and chia seeds, have some levels of anti-inflammatory fatty acids; however, genetic variations make it more difficult to fully utilize plant-based sources.

**Fatty Acids Throughout Life:**

**Trying To Conceive:** Omega 3 Fatty Acids consumption may increase sperm volume, increase testicle size, and have higher levels of free testosterone in relation to LH in males. In females, Omega 3 Fatty Acids can improve the quality of oocytes in older women of child-bearing age. Overall, they may have a positive effect on fertility health in both males and females.

**Pregnancy:** Omega 3 Fatty Acids provide benefit for both visual health and neurological health in the developing fetus. Because of the fetus' high usage of the mother's Omega 3 Fatty Acids during nervous system development, she usually has low levels. Omega 3 Fatty Acids may decrease the probability of pre-term labor, lower the risk of pre-eclampsia, and can increase birth weight. Consuming this nutrient may also lower the risk of post-partum depression in new mothers.

**Birth to 3 Years:** Omega 3 Fatty Acids are beneficial in breastmilk production. Lower levels of Omega 3 Fatty Acids may be tied to increased sleep disturbances. Omega 3 Fatty Acids may be linked to improved memory and improved verbal learning ability. Young children need higher amounts of DHA if supplementing.

**4 Years to 17 Years:** Omega 3 Fatty Acids may aid in the ability to focus and reduce symptoms such as hyperactivity and impulsivity. They also have positive effects on mood and may lower symptoms of Asthma. Children often need more DHA if supplementing.

**18 Years+:** In the adult years, Omega 3 Fatty Acids are needed to reduce risks associated with heart and brain health. Consuming a daily fish oil supplement or eating wild-caught fish at least 3 times a week may be beneficial for general wellness.



**Your Minerals Genetic Results:**

Gene	RSID	Allele	Risk	Recommendation
SLC30A8	rs13266634	CT	Moderate risk of Magnesium and Zinc deficiencies.	Micronutrient Test
SUOX	rs7297662	AA	Low risk of Sulfur Metabolism Concerns.	Micronutrient Test
HFE	rs1799945	CC	Low risk of Iron deficiency.	Full Iron Panel
BDNF	rs6265	CC	High risk for Magnesium and Zinc deficiencies.	Micronutrient Test

**Basic Information About Mineral Genes:**

Most people associate minerals with bone and immune health; however, minerals are needed for every function of life. Separately, minerals are known for specific actions on the body; however, when taken together they work synergistically. Magnesium is known for aiding in gut motility, neurological speed, mood stability, and muscle/joint health. Zinc is known for immunological properties. Molybdenum is known for reducing sulfur and toxins. Iron is known for carrying oxygen throughout the blood. All of these functions are required for overall wellness. Minerals are also required for vitamins to work properly, which is why they are often seen paired together in supplement form. The genes assessed in this test are known for creating deficiencies with these specific minerals. The best food sources, for minerals in general, include green vegetables, beef liver, shellfish, nuts/seeds, and avocados.

**Minerals Throughout Life:**

**Trying To Conceive:** Minerals are needed to support fertility in both men and women. When taken together, minerals act synergistically to support the body’s natural biochemical processes. Magnesium aids in balancing female fertility hormones, such as progesterone and estrogen. Zinc aids in egg fertilization and sperm quality. Those with low levels of zinc may have longer periods of trying to conceive. Ovulatory infertility can sometimes be caused by iron deficiency. Taking a prenatal with these minerals in the correct form is ideal for both men and women during this stage.

**Pregnancy:** During pregnancy, the body has an increased demand for minerals to help support the growth of the fetus. Magnesium may reduce fetal growth restriction and help reduce instances of preeclampsia. It also aids in nervous system health and protein synthesis. Taking a prenatal with minerals is ideal.

**Birth to 3 Years:** Minerals help with lactation and overall health. Children utilize minerals during all stages of growth. They support the nervous system, skeletal system, and brain health. Many toddlers can have iron deficiency anemia, which appears as failure to thrive, bruising easily, and altered sleep.

**4 Years to 17 Years:** Deficiencies in minerals at this stage often appear as “growing pains,” migraines, poor mood, lack of focus or ambition, and poor immune function. Teenagers, especially, may require more minerals if they are active in sports.

**18 Years+:** Mineral needs vary as you age. Whether you are concerned with musculoskeletal health, hormone levels, or brain health, testing your micronutrient status with your healthcare practitioner can be a useful tool for maintaining health.





**Your Glutathione Genetic Results:**

Gene	RSID	Allele	Risk	Recommendation
GPX1	rs1050450	GG	Low risk of Glutathione deficiency.	Organic Acids

**Basic Information About Glutathione Genes:**

High levels of oxidative stress may lead to high levels of free radicals in the body. This can lead to a variety of health-related complications, especially poor detoxification and metabolic dysfunction. Maintaining healthy levels of antioxidants in the body such as Glutathione, can be considered one addition to wellness care along with maintaining a healthy diet and lifestyle. Glutathione helps maintain levels of other antioxidants such as Vitamin C, Folate, and Vitamin E. It also improves the immune system and aids in detoxification. Most Glutathione supplementation is not effective at increasing serum levels; however, liposomal Glutathione has been shown to provide antioxidant properties. Foods high in Glutathione include asparagus, spinach, okra, and avocados.

**Glutathione Throughout Life:**

**Trying To Conceive:** Glutathione aids in the reduction of oxidative stress, a component in male and female infertility, which can improve overall egg quality and sperm health (such as motility). It also may help protect the female egg from damage during ovulation.

**Pregnancy:** Maintaining healthy levels of Glutathione during pregnancy aids in proper cellular function during fetal development. It may also be protective for both the developing fetus and mother. Choose foods highest in Glutathione rather than supplementation.

**Birth to 3 Years:** Preterm infants usually do not have optimal levels of antioxidants. Supplementation, however, is not recommended. If breastfeeding, the mother should consume foods high in Glutathione. If supplementation is required, consult your healthcare provider.

**4 Years to 17 Years:** Glutathione deficiency often presents as anemia, frequent infections, autoimmunity, seizures, and loss of coordination. Glutathione has been utilized in some pediatric clinics as a therapy option for children with ASD. Consult with your healthcare provider before supplementing with Glutathione.

**18 Years+:** Glutathione deficiency in adults often presents as anemia, autoimmunity, frequent infections, and loss of coordination. It can also cause multiple chemical sensitivity. Consult with your healthcare provider if supplementation is recommended.





### Your Carbohydrate Metabolism Genetic Results:

Gene	RSID	Allele	Risk	Recommendation
AMY1	rs4244372	AT	Moderate need for digestive enzyme support.	Stool – carb metabolism
FTO	rs9939609	AA	High risk for obesity. Avoid sugar.	Stool – carb metabolism
PLIN	rs894160	CC	Low-carb diet is beneficial.	Stool – carb metabolism

### Basic Information About Carbohydrate Metabolism Genes:

Carbohydrates are sugar, cellulose, or starch, and they provide energy on the cellular level for all ages. The genes assessed in this report specifically control how well you metabolize carbohydrates and whether you can utilize carbs for weight management. All people do well with carbohydrates in the form of vegetables, fruit, and fiber; however, genetically, people may be sensitive to processed or refined carbs.

If your **PLIN** gene states that you should follow a high carb diet, this specifically means you would do well with whole grains, legumes, fruits, and vegetables as staples for you meals in addition to protein sources. This is often called a Mediterranean style diet in popular literature.

If your **PLIN** gene states that you should follow a low carb diet, this specifically means you need to avoid things like grains and processed carbs (cookies, cakes, breads, etc). You should still consume adequate amounts of vegetables and fruits in addition to protein sources. When introducing foods to children, avoid starting with rice cereals. Start with fruits and veggies instead. Often, people will use the term “Paleo Diet” in popular literature to search for appropriate recipes.

The **AMY1** gene creates a need for additional digestive support when carbohydrates are consumed, so you may want to consider a digestive enzyme supplement that targets carbohydrates if it is suggested. This gene is also linked to childhood obesity when the A allele is present. Dental caries may also be linked to this gene.

The **FTO** gene is directly linked to simple sugar consumption and obesity (cookies, cakes, ice cream, pastas, breads, etc.), so if this genetic variant is present you should avoid them whenever possible. This is known as the

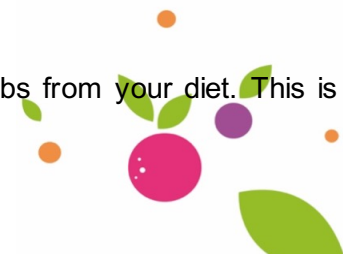
### Carbohydrate Metabolism Throughout Life:

#### All stages of life require carbohydrates!

Follow the PLIN gene to determine the best carbohydrate metabolism for your body at every stage of growth. See our Mediterranean and Paleo diet guides for details about what foods constitute healthy high or low carbs. Essentially, it boils down to whether or not people can handle grains as an adequate source of dietary carbohydrates.

Pregnant and nursing mothers, as well as growing children, should never have healthy carbs restricted. Fruits and vegetables allow for proper growth at all stages for all genetic types.

If obesity is a concern, at any age, make sure to remove refined and processed carbs from your diet. This is especially helpful for children, as they do well avoiding sweets and processed foods.



**Your Lipid (Fat) Metabolism Genetic Results:**

Gene	RSID	Allele	Risk	Recommendation
ADIPOQ	rs17300539	GG	Consuming unsaturated fat is safe.	Stool – fat metabolism

**Basic Information About Fat Metabolism Genes:**

Lipids are fatty acids that are required for cellular health and growing bodies. Dietary fats are essential for all ages; however, your genes do control whether or not you can create a meal plan around them. The ADIPOQ gene variation states whether or not you should avoid high fat diets. Essentially, this genetic variation determines if dietary fat will contribute to obesity, heart disease, diabetes, and liver dysfunction.

All ages do well with mono and polyunsaturated fats in their diets, especially from foods such as olive oil, avocados, nuts/seeds, and wild-caught salmon.

Most people do not tolerate saturated fats, such as bacon, butter, and fried foods.

If your results state that you should avoid a high fat diet, this means you cannot follow the popular diets known as “Keto” or “Atkins.” You may do best eating less than 30% of your daily calories from fat. Focus on healthy mono and polyunsaturated options.

**Lipid (Fat) Metabolism Throughout Life:**

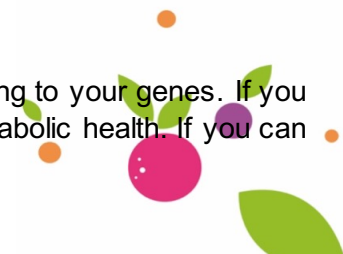
**Trying To Conceive:** Studies suggest that women who eat Omega 3 Fatty Acids (fish) daily have greater potential of getting pregnant than those you do not. Unsaturated fat consumption for men and women have been linked to successful conception. High saturated fat diets are linked to low testosterone levels in men and poor hormone metabolism in women.

**Pregnancy:** High saturated fat intake has been linked to gallbladder disease and liver dysfunction in pregnancy.

**Birth to 3 Years:** Fat restriction should not occur at this age. Breastfeeding and/or formulas are designed to give newborns adequate levels. Once foods are introduced, focus on options such as avocados, eggs, fish, and olives. Fat is required for proper growth and brain health.

**4 Years to 17 Years:** At this age, we start to see potential for obesity, diabetes, and other fat-associated health concerns in children who eat too many saturated fats. Too little fat may cause neurological concerns, especially learning differences. Continue to focus on unsaturated options with little restriction. Research suggest Medium Chain Triglycerides from coconut or palm oil may support the brain.

**18 Years+:** After reaching adulthood, you can focus your unsaturated fat levels according to your genes. If you need to restrict fats to less than 30% of your daily calories, this may aid in cardiometabolic health. If you can consume more fat than the average person, choose unsaturated options.



**Your Dairy Sensitivity Genetic Results:**

Gene	RSID	Allele	Risk	Recommendation
MCM6	rs4988235	GG	Lactose intolerant. Avoid dairy.	Food Sensitivity
APOA	rs5082	AA	Dairy is not linked to obesity.	Cardiometabolic Panel

**Basic Information About Dairy Sensitivity Genes:**

Dairy is one of the most revered food groups across all cultures; however, there are a few genetic types that will find it difficult to consume dairy. Dairy includes milk, cheese, yogurt, cream, and all other milk byproducts from animals (most commonly cows, goats, and sheep). Human breastmilk is not considered dairy. The genes assessed in this report specifically look at lactose tolerance and the metabolic implications of dairy consumption.

The **MCM6** gene determines whether you can tolerate lactose, the sugar found in milk. This gene evolved over time since generations of people relied on milk for survival. While most people are genetically lactose intolerant, some cultures evolved to break down lactose efficiently. A caveat here, however, is that your genetic status does not always align with your symptoms. You may be genetically sensitive (or not) and still have trouble consuming dairy products.

The **APOA** gene is linked to obesity and dairy consumption, especially high fat options. If losing weight is a goal for you, consider eliminating dairy products. On the other hand, if you need to gain weight, adding dairy products may be beneficial; although, one could argue that it is not the healthiest form of weight gain.

Contrary to popular belief, dairy is not a necessary food source at any stage of life. While it may be rich in calcium and fats, there are other food options that have adequate levels of those nutrients. If you choose to consume dairy, make sure it is grass-fed and organic whenever possible.

Certain people should avoid dairy regardless of their genetic status:

- Children with ASD
- Children with asthma or allergies
- Children with chronic ear infections
- Women with thyroid conditions
- Individuals with autoimmune conditions
- Overweight or obese individuals
- Individuals with cardiometabolic conditions



**Your Gluten Sensitivity Genetic Results:**

Gene	RSID	Allele	Risk	Recommendation
HLA-DQ8	rs7454108	TT	No need to avoid gluten.	Celiac Panel
HLA-DQ2.5	rs2187668	CC	No need to avoid gluten.	Celiac Panel
MYO9B	rs2305764	GG	Avoid gluten if GERD is present.	Celiac Panel
TNF	rs1800629	GG	No need to avoid gluten.	Celiac Panel, CRP

**Basic Information About Gluten Sensitivity Genes:**

Gluten is a protein found in wheat, barley, and rye. It is the molecule that gives breads and pasta the “sticky” feeling when mixing dough. It also happens to create inflammatory issues for a large percentage of the population. While breads are a symbolic food for many cultures, the latest literature links gluten to multiple disease processes, especially autoimmune reactions. In general, it is safe to follow a gluten-free diet at any stage of life. Be cautious when eating at restaurants or consuming processed foods, as there are many hidden sources of gluten. While gluten itself is not a required nutrient at any stage of life, there are essential vitamins and minerals that are found in wheat. Vitamin E and selenium are common deficiencies in those eating a gluten-free diet, so supplementation may be necessary.

The genes tested in this report have been extensively researched in their connection to Celiac Disease, Inflammatory Bowel Syndrome, Crohn’s Disease, Ulcerative Colitis, and other autoimmune diseases.

**HLA-DQ8 and HLA-DQ2.5** are the most well-known Celiac specific genes. If you have a variation of these genes, a gluten-free diet is recommended.

**MYO9B** is a gene associated with autoimmunity, in general. Variants in this gene are directly linked to a higher risk of autoimmune diagnosis, especially Crohn’s and Rheumatoid Arthritis, in those who consume gluten. A gluten-free diet is recommended. In addition, those who have the GG allele are more likely to have heartburn, silent reflux, or GERD symptoms when consuming gluten. If you do have those symptoms, following a gluten-free diet is recommended.

**TNF** is a generalized inflammatory gene; however, when variants are present, it has been linked to Celiac Disease and non-Celiac gluten sensitivity. A gluten-free diet is recommended if variations are present.



**Your Environmental Sensitivity Genetic Results:**

Gene	RSID	Allele	Risk	Recommendation
PON1	rs662	CT	Pesticide sensitivity.	Organic Acids
HNMT	rs1050891	AA	Food dyes linked to ADHD symptoms.	Histamine, DAO

**Basic Information About Environmental Sensitivity Genes:**

While everyone has difficulty processing environmental toxins, children are most susceptible, and a variety of genetic variations make them prone to experiencing neurological and metabolic dysfunction. The genes assessed in this report have been linked to poor detoxification of several chemicals, especially pesticides and food dyes.

The **PON1** gene variant is linked to poor detoxification of pesticides. While no one, regardless of genetics, should be exposed to pesticides on a regular basis, it is often unavoidable. Choose to use natural pest control options, like essential oils, whenever possible. Be sure to wash your produce in an apple cider vinegar solution before consuming them. Choose organic produce when possible. Use a water filtration system in your home.

The **HNMT** gene is a histamine-associated gene that is known to cause sensitivity to food dyes. Symptoms such as hyperactivity, asthma, anxiety, and migraines are often due to a variation in this gene that creates high histamine levels in the body. Following a low histamine diet may prove beneficial for most; however, a set population should always avoid food dyes. Using supplements with nettles, Vitamin C, and/or quercetin may reduce histamines.

**Environmental Sensitivity Throughout Life:**

**Trying To Conceive:** Infertility, especially for men, has been linked to exposure to pesticides in those with PON1 variations. Choose milk thistle and glutathione to help lower toxic burden.

**Pregnancy:** High levels of histamine during pregnancy have been linked to pre-eclampsia, spontaneous abortion, and pre-term labor. Follow a low-histamine diet if you experience hypertension during pregnancy.

**Birth to 3 Years:** Children have poor functioning detoxification systems the first few years of life, so it is critical for them to be exposed to toxins as little as possible. Research suggests that early introduction to pesticides may increase potential for behavioral concerns and spectrum disorders. Early childhood asthma is linked to high histamine levels, especially after consuming red food dye.

**4 Year to 17 Years:** High histamine levels are linked to school-aged concerns like ADD or depression. Changes in mood and performance in school may be signs of high histamine. Removing high histamine foods, especially food dyes, may help.

**18 Years+:** Adults often complain of migraines, asthma, anxiety, and depression when exposed to environmental toxins. With a fully functioning detoxification system in place, it becomes important to consume nutrients that protect your liver, such as milk thistle and glutathione. Make sure you drink enough clean water, have bowel movements daily, sweat daily, and reduce your exposure to toxins when possible.



**Your MAO Genetic Results:**

Gene	RSID	Allele	Risk	Recommendation
MAOA	rs6323	GT	Balanced MAOa activity.	Organic Acids
MAOB	rs1799836	CT	Balanced MAOb activity.	Organic Acids

**Basic Information About MAO Genes:**

MAO genes serve to break down neurotransmitters, so they can be used properly in the body. While the gene affects all neurotransmitters, it is most widely associated with serotonin metabolism. Serotonin is the hormone most often associated with happiness. Males are more likely to have symptoms associated with MAO gene variants, as it is a sex-linked gene. This means, males can only gain a copy of the gene from their mother. In females, heterozygous variations (mixed alleles) are neither high or low, which is considered ideal.

This gene has been most widely studied in association with Autism Spectrum Disorder and mental health conditions. The symptoms may be present at any stage of life, and the food and supplement recommendations are relevant for any stage.

Literature often discusses the activity of MAOa in terms like “high” or “low” activity level. High MAOa means the gene activity quickly breaks down serotonin, leaving too little in the brain. Low MAOa means the gene slowly breaks down serotonin, leaving too much in the brain.

**HIGH MAOa:** When there is too little serotonin in the brain, symptoms such as anxiety, sugar cravings, impulsivity, aggression, depression, and insomnia are common. Fermented foods aid in making more serotonin in the gastrointestinal tract. Supplements such as 5-HTP and Bacopa may prove useful if these symptoms are present in ages 5+ years. Coffee and curcumin may be used to inhibit MAO activity as well. If deficiencies in zinc, Vitamin C, or Vitamin B6 are present, supplementation with these nutrients may help alleviate symptoms associated with High MAOa.

**LOW MAOa:** When there is excessive serotonin in the brain, symptoms such as agitation, restlessness, heart palpitations, excessive sweating, muscle rigidity, confusion, goose bumps, shivering, headaches, stomach pain, and diarrhea may occur. Avoiding aged foods, especially cheese, kombucha, chocolate, and alcohol will help reduce serotonin. Avoid coffee when possible. Children with this gene do well on a low-tyramine diet (see blog for details). Avoid 5-HTP in supplementation. If deficiencies in Vitamin B12, Folate, Vitamin C, or magnesium are present, supplementation with these nutrients may help alleviate symptoms associated with Low MAOa.

**MAOb:** The CC allele is often seen as a predictive gene for schizophrenia in children. While it does not follow the same “high” or “low” patterns of MAOa, we recommend following the same dietary and supplemental recommendations for Low MAOa if the CC allele is present.





### Your COMT Genetic Results:

Gene	RSID	Allele	Risk	Recommendation
COMT V158M	rs4680	AG	Balanced COMT activity.	Organic Acids, Hormones

### Basic Information About The COMT Gene:

Much like the MAO genes, COMT serves to metabolize neurotransmitters, especially dopamine, your “feel good” chemical. Dopamine plays a role in the pleasure centers of the brain, and COMT enzyme activity will greatly affect your mood, productivity, and personality.

COMT enzyme activity is discussed in terms of “high” or “low,” creating an exaggerated effect on the levels of dopamine in the brain. There are good and bad aspects of high and low COMT activity, so the goal should always be to balance neurotransmitters so that no adverse symptoms are present. Heterozygous variations (mixed alleles) are neither high or low, which is considered ideal. Every stage of life is affected by COMT, so food and supplement recommendations remain constant for any age. Both males and females have an equal opportunity for COMT activity to be problematic.

**High COMT:** This enzyme activity creates too little dopamine in the prefrontal cortex of the brain. This causes people to get less pleasure out of life, have poor executive function, have poor fine motor skills, and depression (especially in children). On the other hand, it is also associated with better working memory, better ability to learn languages, higher emotional resilience under stress, higher pain tolerance, and a more empathetic personality. Cognition is greater when under stress, as stress naturally increases dopamine. This is also known as the “Warrior” gene. Consuming protein at every meal and snack will help balance COMT enzyme activity. Consider eating all protein with additional green leafy vegetables (or fruit/veggie supplement blends) to help increase Folate activity.

**Low COMT:** This enzyme activity creates too much dopamine in the prefrontal cortex of the brain. This causes people to have more anxiety, less impulse control, addictive tendencies, OCD, panic disorders, less helpful personality, cannot tolerate pain, ADHD, and sensitivity to mercury and estrogens. Women are more likely to have uterine fibroids and endometriosis. People with this variation may not handle methylated B vitamins. On the other hand, this genetic variation is associated with getting more pleasure out of life, more creativity, and a higher IQ. Cognition is better when not under stress, as stress naturally increases dopamine. This is also known as the “Worrier” gene. Consuming less protein at dinner time will help balance COMT enzyme activity. Rather, consume the majority of your protein at breakfast to balance dopamine activity. Consider a protein smoothie to get a substantial amount in the morning. Using magnesium as a supplement may also enhance COMT activity for this genetic type. Avoid stressful situations whenever possible. Reduce high-mercury containing foods, such as tuna. Get adequate amounts of restful sleep. Balance hormones, especially estrogen, when necessary.





## Genetic Testing FAQs

### Why take a genetic test?

Genetic testing provides a blueprint to your body. While we cannot change our genes, we can create lifestyles that honor them. Use this genetic test as a means to understand what nutrient deficiencies and dietary sensitivities you may be prone to developing.

### What are the differences between genetic testing companies?

At NutriTots, we only test genes that have proven to be connected to your daily wellness routine. Whether it is a vitamin need, how you metabolize carbs and fats, or if you are sensitive to gluten and pesticides, we only test those genes that give you actionable information. Other companies may test your entire genome, ancestry, paternity, or disease-oriented mutations. Those are all beneficial tests if you need that information; however, it is not the focus at NutriTots because we find there is little lifestyle prevention that can impact those results.

### What are the methods and limitations of this test?

NutriTots uses mass spectrometry to extract genetic material from your provided sample. Our genetic team has set high levels of specificity and sensitivity to pull the necessary information. Unfortunately, genetic material can be degraded if one consumes citrus or dairy products within an hour of performing the cheek swab. If the genetic material appears to be less than desirable in the sample, we do collect reswabs from the client. This test is also limited in the sense that it is only looking at the 40+ genes stated in the report. No additional information is pulled beyond what is listed in the report. There is no raw data file available beyond this report.

### How do I use this information?

As stated before, we believe genetic testing allows you to honor your potential. Take this information and follow the action steps outlined in the report for wellness routines. If you have specific medical needs, please take this information to your healthcare provider and pair it with other types of testing. This information is not, however, intended to diagnose, treat, cure, or prevent any type of disease and is not regulated by the FDA. This test should be considered an educational tool, not a diagnostic one.

### Is your lab CLIA certified?

Each genetic sample is analyzed at a CLIA and CAP certified lab. If you would like the specific identification number for the lab, please contact [help@nutritots.com](mailto:help@nutritots.com).

### Why don't you put words such as wild type or homozygous in your report?

While it is common nomenclature to use the terms wild type, heterozygous, and homozygous when reporting results, we feel it does a disservice to you in understanding the allele changes. These terms have often been used to describe good or bad results from variations rather than give you a proper view of allele function. Instead, we simply report your allele and the concerns (or lack thereof) associated with it.

### What resources do you use to create your report?

We use NCBI as the guide for alleles, and we have a database of peer reviewed literature to guide our recommendations. <https://www.ncbi.nlm.nih.gov/snp/>

