TEST 1755120660283

TABLE OF CONTENTS

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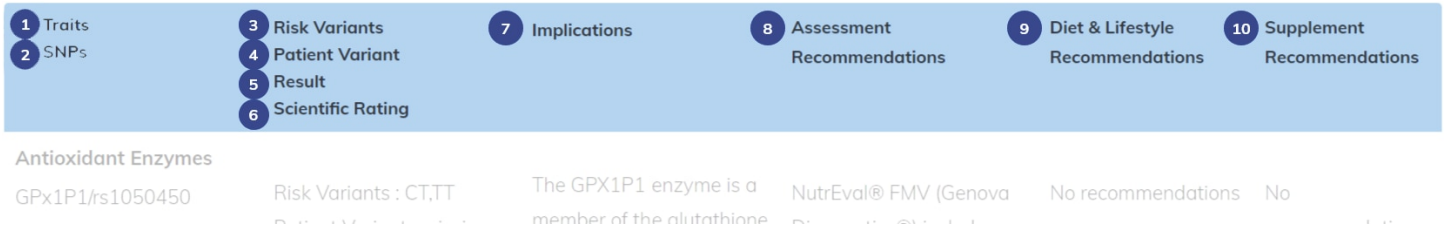
HOW TO READ THIS REPORT



1. **TRAIT:** A unique characteristic or process that is controlled by genetic factors. Examples include vitamin D levels, body weight, food sensitivities, and response to exercise.
2. **SNP (SINGLE NUCLEOTIDE POLYMORPHISM):** Differences in a single DNA building block that, along with the environment, influence a person's traits
3. **RISK VARIANT:** Specific genetic variations where a dietary or lifestyle recommendation may improve health.
4. **PATIENT VARIANT** Which of the different genetic options a person has.
5. **PATIENT RESULT:** Results will fall into 1 of 3 categories: Consider Action, Enhanced Benefit, or No Action. "Consider Action"appears for traits where diet and lifestyle recommendations that may improve health. "Enhanced Action"appears for traits where a dietary or lifestyle factor may lead to greater health benefits. "No Action"appears for traits that are not associated with increased needs
6. **SCIENTIFIC RATING:** Level of scientific evidence supporting the associated effect. 5 is the highest level of evidence, 1 is the lowest (see Scientific Rating breakdown below).
7. **IMPLICATIONS:** Details the impact of specific traits on the body.
8. **ASSESSMENT RECOMMENDATIONS:** Investigations that can inform the clinical picture for a specific trait.
9. **DIET & LIFESTYLE RECOMMENDATIONS:** Nutrition advice and behavior changes that may provide a health benefit based on an individual's results.
10. **SUPPLEMENT RECOMMENDATIONS:** A list of supplements tailored to an individual's results.

SCIENTIFIC RATING BREAKDOWN

★★★★★	Based on a study of 5000 or more subjects; findings have been replicated in at least 1 additional study.
★★★★☆	Based on a study of 2000-5000 or more subjects; findings have been replicated in at least 1 additional study.
★★★☆☆	Based on a study of 800-2000 or more subjects; findings have been replicated in at least 1 additional study.
★★☆☆☆	Based on a study of 200-8000 subjects without replication; or 1 smaller human study (> 200 subjects) with findings that have been replicated in at least 1 additional small study.
★☆☆☆☆	Based on 1 smaller study without replication.

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GENETIC REPORT SUMMARY

This summary highlights key findings of your traits where you may consider actions to improve your health with diet and lifestyle recommendations.

HIGH PRIORITY ACTIONS

Trait	Result	Scientific Rating	Actionable SNPs
Vitamin A (Retinol)	Consider Action	1/5 1/5	BCMO1 (rs7501331) BCMO1 (rs12934922)
Vitamin B6 (Pyridoxine)	Consider Action	1/5 3/5	CBS (rs234706) NBPF3 (rs4654748)
Folate	Consider Action	5/5 5/5	MTHFR A1298C (rs1801131) MTHFR C677T (rs1801133)
Choline	Consider Action	3/5 2/5	PEMT (rs7946) MTHFD1 (rs2236225)
Vitamin B12 (Cobalamin)	Consider Action	3/5 2/5 4/5 2/5	TCN2 (rs1801198) MTR (rs1805087) FUT2 (rs602662) MTRR (rs1801394)
Vitamin D	Consider Action	5/5 5/5 5/5	GC (rs2282679) DHCR7 (rs12785878) CYP2R1 (rs10741657)
Vitamin E (Alpha-tocopherol)	Consider Action	5/5	Intergenic (rs12272004)
Iron Overload	Consider Action	5/5 5/5	HFE (rs1800562) HFE (rs1799945)
Zinc	Consider Action	4/5	SLC30A8 (rs11558471)
Omega-3 Fatty Acids	Consider Action	5/5 4/5 4/5	FADS1 (rs174546) FADS1 (rs174537) FADS1 (rs174547)
Antioxidant Enzymes	Consider Action	5/5 4/5 5/5	SOD2 (rs4880) NQO1 (rs1800566) GPx1P1 (rs1050450)
Environmental Toxins	Consider Action	2/5	GSTP1 (rs1695)
Estrogen Metabolism	Consider Action	2/5	COMT (rs4680)
Caffeine Metabolism	Consider Action	2/5	CYP1A2 (rs762551)
Eating Between Meals	Consider Action	5/5	MC4R (rs17782313)
Protein Intake	Consider Action	5/5	FTO (rs9939609)
Saturated Fat Response	Consider Action	5/5	APOA2 (rs5082)
Adiponectin Levels	Consider Action	5/5	ADIPOQ (rs17366568)
Monounsaturated Fat Response	Consider Action	4/5	PPARG (rs1801282)

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Trait	Result	Scientific Rating	Actionable SNPs
Response to Saturated Fat	Consider Action	2/5	ACE (rs4343)
Salt Sensitivity	Consider Action	2/5	AGT (rs699)
C-reactive Protein Level	Consider Action	5/5	CRP (rs1205)
Caffeine Metabolism	Consider Action	4/5	CYP1A2 (rs762551)
Paraoxonase-1 (PON1) Activity	Consider Action	3/5	PON1 (rs662)
HDL Cholesterol Level	Consider Action	4/5	LIPC (rs1800588)
Coenzyme Q10 Levels	Consider Action	1/5	SLCO1B1 (rs4149056)
Histamine Metabolism	Consider Action	2/5	AOC1 (rs10156191)
Processed Meat Sensitivity	Consider Action	4/5	GATA3 (rs4143094)
Microbial Balance in the Stomach	Consider Action	2/5	TLR4 (rs4986790)
Microbial Balance in the Intestine	Consider Action	2/5	FUT2 (rs601338)
Executive Function	Consider Action	3/5	COMT (rs4680)
Stimulant Sensitivity	Consider Action	2/5	COMT (rs4680)
Serotonin Production	Consider Action	2/5	TPH2 (rs4570625)
Brain-Derived Neurotrophic Factor	Consider Action	1/5	BDNF (rs6265)
Dopamine Receptor Function	Consider Action	2/5 2/5 4/5 2/5	DRD2 (rs6277) DRD2 (rs2283265) DRD2 (rs1076560) ANKK1-DRD2 (rs1800497)
Cannabis Response	Consider Action	3/5	FAAH (rs324420)
IL-6 Activation	Consider Action	2/5	IL-6 (rs1800795)
TNF-alpha Activation	Consider Action	2/5	TNF (rs1800629)
Vitamin A (Retinol)	Consider Action	1/5 1/5	BCMO1 (rs7501331) BCMO1 (rs12934922)
Vitamin D	Consider Action	5/5 5/5 5/5	GC (rs2282679) DHCR7 (rs12785878) CYP2R1 (rs10741657)
Microbial Balance in the Intestine	Consider Action	2/5	FUT2 (rs601338)
Tendon or Ligament Injury	Consider Action	2/5 4/5	COL5A1 (rs12722) COL1A1 (rs1800012)
Achilles Tendon Injury	Consider Action	4/5	MMP3 (rs679620)
Exercise-related Fatigue	Consider Action	2/5	AMPD1 (rs17602729)
Muscle Soreness	Consider Action	2/5	ACTN3 (rs1815739)

Trait	Result	Scientific Rating	Actionable SNPs
Glucose Metabolism	! Consider Action	★★★★★ 5/5 ★★★★★ 5/5	TCF7L2 (rs7903146) ADRA2A (rs553668)

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TRAITS AND TRAIT CATEGORIES

(!) = **Consider Action**

» = **Enhanced Benefit**

P = **Polygenic Score**

Vitamins, Minerals & Omega-3s

Vitamin A (Retinol)	(!)
Vitamin B2 (Riboflavin)	»
Vitamin B6 (Pyridoxine)	(!)
Folate	(!)
Choline	(!)
Vitamin B12 (Cobalamin)	(!)
Vitamin C (Ascorbic Acid)	
Vitamin D	(!)
Vitamin E (Alpha-tocopherol)	(!)
Iron Overload	(!)
Zinc	(!)
Omega-3 Fatty Acids	(!)

Detoxification

Antioxidant Enzymes	(!)
Environmental Toxins	(!)
Estrogen Metabolism	(!)
Caffeine Metabolism	(!)

Glucose Metabolism

Glucose Metabolism	(!)

Weight Management

Eating Between Meals	(!)
Protein Intake	(!)
Saturated Fat Response	(!)
Adiponectin Levels	(!)
Monounsaturated Fat Response	(!)

Cognitive Health and Memory

Executive Function	(!)
Stimulant Sensitivity	(!)
Serotonin Production	(!)
Brain-Derived Neurotrophic Factor	(!)
Dopamine Receptor Function	(!)
Cannabis Response	(!)

Immune Health

IL-6 Activation	(!)
TNF-alpha Activation	(!)
Vitamin A (Retinol)	(!)
Vitamin C (Ascorbic Acid)	
Vitamin D	(!)
Selenium	
Microbial Balance in the Intestine	(!)
IL-4 Activation	
IL-6 Receptor Activation	
IL-17a Activation	

Energy & Fitness

Strength & Power	
Endurance	
Tendon or Ligament Injury	(!)
Achilles Tendon Injury	(!)
Endurance Potential	»
Aerobic Capacity	»
Exercise-related Fatigue	(!)
Body Fat and Exercise	»
Muscle Soreness	(!)
Glucose Response to Exercise	»

Cardiovascular Health

Response to Saturated Fat	(!)
Salt Sensitivity	(!)
C-reactive Protein Level	(!)
Caffeine Metabolism	(!)
Blood Flow and Exercise	
Paraoxonase-1 (PON1) Activity	(!)
HDL Cholesterol Level	(!)
HDL Cholesterol and Exercise	
Coenzyme Q10 Levels	(!)

Gastrointestinal Health	
	Histamine Metabolism
	Lactose Intolerance
	Processed Meat Sensitivity
	Microbial Balance in the Stomach
	Microbial Balance in the Intestine

GENE ANALYSIS SUMMARY

VITAMINS, MINERALS & OMEGA-3S

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Vitamin A (Retinol)					
BCMO1 (rs7501331)	Risk Variant : CT,TT Patient Variant : CT Result : Consider Action Scientific Rating : 1 of 5	Individuals with this genotype may have a reduced capacity to convert beta-carotene to vitamin A (retinol). This may increase the need for directly consuming vitamin A.	Both assays are useful as vitamin A status may be low and serum beta-carotene levels may be elevated due to poor conversion to retinol. Serum beta-carotene Men: 4-51 mcg/dL; Women: 6-77 mcg/dL Serum retinol Adults: 32.5-78.0 mcg/dL	Eat more foods with vitamin A, such as organ meats (liver, kidney, etc.), eggs, cod liver oil, and dairy products. If these foods are not part of your patient's regular diet, they may benefit from a supplement.	**PureGenomics® UltraMultivitamin** **Alternatives:** PureGenomics® Multivitamin 60's Vitamin A + Carotenoids 90's
BCMO1 (rs12934922)	Risk Variant : AT,TT Patient Variant : AA Result : No Action Scientific Rating : 1 of 5				
Vitamin B2 (Riboflavin)					
MTHFR C677T (rs1801133)	Risk Variant : TT Patient Variant : TT Result : Enhanced Benefit Scientific Rating : 2 of 5	Individuals with this genotype are more likely to respond well to vitamin B2 (riboflavin) supplementation.	No recommendation	Foods that contain riboflavin (vitamin B2) should be part of your patient's diet. Good sources include leafy green vegetables, lean meats, eggs, and dairy products. If these foods are not part of your patient's regular diet, they may benefit from a supplement.	**PureGenomics® UltraMultivitamin** **Alternatives:** PureGenomics® Multivitamin 60's PureGenomics® B-Complex 120's

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Vitamin B6 (Pyridoxine)					
CBS (rs234706)	Risk Variant : CT,TT Patient Variant : CT Result : Consider Action Scientific Rating : 1 of 5	Individuals with this genotype are more likely to have lower vitamin B6 (pyridoxine) levels.	Plasma B6 Adults: 2.1-21.7 ng/mL	Your patient should eat foods that are rich in vitamin B6, including beans, whole grains, meat, eggs, and fish. If these foods are not part of your patient's regular diet, they may benefit from a supplement.	**PureGenomics® UltraMultivitamin** **Alternatives:** P5P 50 (activated vitamin B6) PureGenomics® Multivitamin 60's PureGenomics® B-Complex 120's
NBPF3 (rs4654748)	Risk Variant : CT,CC Patient Variant : TT Result : No Action Scientific Rating : 3 of 5				
Folate					
MTHFR A1298C (rs1801131)	Risk Variant : AC,CC Patient Variant : CC Result : Consider Action Scientific Rating : 5 of 5	Individuals with this genotype have a reduced capacity to convert folic acid and other precursors to its activated form, folate.	Folate (Folic Acid), Serum >3.0 ng/mL Plasma homocysteine Men: <11.4 µmol/L ; Women: <10.4 µmol/L RBC folate Adults: >280 ng/mL	Your patient should eat plenty of leafy green vegetables and legumes (like beans, lentils, chickpeas, and peanuts) which provide folate in a form the body can easily use. If these foods are not part of your patient's regular diet, they may benefit from a supplement.	**PureGenomics® UltraMultivitamin** **Alternatives:** PureGenomics® Multivitamin 60's PureGenomics® B-Complex 120's Folate 1000 90's
MTHFR C677T (rs1801133)	Risk Variant : CT,TT Patient Variant : TT Result : Consider Action Scientific Rating : 5 of 5				

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Choline					
PEMT (rs7946)	Risk Variant : AA,AG Patient Variant : AA Result : Consider Action Scientific Rating : 3 of 5	Individuals with this genotype may have a reduced capacity for choline production.	Diet: Intake of choline rich foods (eggs, meat, dairy) Liver function tests Plasma homocysteine Men: <11.4 µmol/L ; Women: <10.4 µmol/L	Your patient should include choline-rich foods in their diets, such as lean meats, poultry, fish, dairy products, and eggs. Kidney beans, mushrooms, and quinoa are also good sources of choline. If these foods are not part of your patient's regular diet, they may benefit from a supplement.	**PhosphatidylcholinePureGenomics® UltraMultivitamin** **Alternatives:** PureGenomics® Multivitamin 60's
MTHFD1 (rs2236225)	Risk Variant : AA,AG Patient Variant : GG Result : No Action Scientific Rating : 2 of 5				
Vitamin B12 (Cobalamin)					
TCN2 (rs1801198)	Risk Variant : CG,GG Patient Variant : CG Result : Consider Action Scientific Rating : 3 of 5	Individuals with these genotypes may have a lower capacity to absorb, utilize and/or transport vitamin B12 (cobalamin) to parts of the body that need it.	Serum B12 Adults: 180-914 ng/L Serum methylmalonate Adults: <400 nmol/L	Foods containing vitamin B12 should be part of your patient's regular diet. Good sources include lean meats, fish, dairy products, and eggs. If these foods are not part of your patient's regular diet, they may benefit from a supplement.	**PureGenomics® UltraMultivitamin** **Alternatives:** PureGenomics® Multivitamin 60's PureGenomics® B-Complex 120's Adenosyl/Hydroxy B12 90's B12 liquid 30 ml
MTR (rs1805087)	Risk Variant : GG,AG Patient Variant : GG Result : Consider Action Scientific Rating : 2 of 5				

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
FUT2 (rs602662)	Risk Variant : GG,AG Patient Variant : GG Result : Consider Action Scientific Rating : 4 of 5				
MTRR (rs1801394)	Risk Variant : GG,AG Patient Variant : GG Result : Consider Action Scientific Rating : 2 of 5				
Vitamin C (Ascorbic Acid)					
SLC23A1 (rs33972313)	Risk Variant : AA,AG Patient Variant : missing-data Result : No Action Scientific Rating : 5 of 5	Your testing service did not evaluate this marker	Dietary vitamin C intake 90 mg/day for men and 75 mg/day for women	No recommendation	No recommendation
Vitamin D					
GC (rs2282679)	Risk Variant : GT,GG Patient Variant : GT Result : Consider Action Scientific Rating : 5 of 5	Individuals with this genotype are more likely to have increased vitamin D requirements.	Serum 25-hydroxy vitamin D Adults: 20-100 ng/mL	Eat foods that contain vitamin D such as mushrooms, fish, and lean pork. If these foods are not part of your patient's regular diet, they may benefit from a supplement. Sunlight is another source of vitamin D. In small amounts, regular sunlight exposure can help boost your vitamin D levels.	**PureGenomics® UltraMultivitamin** **Alternatives:** Vitamin D3 25 mcg (1,000 IU) Vitamin D3 125 mcg (5,000 IU) PureGenomics® Multivitamin 60's Vitamin D3 liquid 22.5 ml Vitamin D3 10 mcg (400 IU) 120's Vitamin D3 250 mcg (10,000 IU)

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
DHCR7 (rs12785878)	Risk Variant : GT,GG Patient Variant : TT Result : No Action Scientific Rating : ★★★★★ 5 of 5				
CYP2R1 (rs10741657)	Risk Variant : AG,GG Patient Variant : AA Result : No Action Scientific Rating : ★★★★★ 5 of 5				
Vitamin E (Alpha-tocopherol)					
Intergenic (rs12272004)	Risk Variant : CC Patient Variant : CC Result : Consider Action ! Scientific Rating : ★★★★★ 5 of 5	Individuals with this genotype may have slightly lower levels of circulating vitamin E (alpha-tocopherol).	Serum vitamin E (alpha-tocopherol) Adults: 5.7-19.9 mg/L	Your patient's diet should include foods that are rich in vitamin E, such as sunflower seeds, almonds, avocados, and spinach. If these foods are not part of your patient's regular diet, they may benefit from a supplement.	**PureGenomics® UltraMultivitamin Vitamin E (with mixed tocopherols)** **Alternatives:** PureGenomics® Multivitamin 60's
Iron Overload					
HFE (rs1800562)	Risk Variant : AG,AA Patient Variant : CC Result : Consider Action ! Scientific Rating : ★★★★★ 5 of 5	Individuals with this genotype are more likely to have elevated blood iron levels.	Ferritin, Serum 15-150 ug/dL Hepcidin and transferrin saturation Iron Bind.Cap. (TIBC) 250-450 ug/dL Serum iron status Adults: 5-20 ng/ml	Your patient may need to limit or avoid iron-rich foods to keep iron levels within a healthy range.	No recommendation

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
HFE (rs1799945)	Risk Variant : CG,GG Patient Variant : CC Result : No Action Scientific Rating : ★★★★★ 5 of 5				
Zinc					
SLC30A8 (rs11558471)	Risk Variant : AG,AA Patient Variant : AG Result : Consider Action ! Scientific Rating : ★★★★☆ 4 of 5	Individuals with this genotype are more likely to have increased zinc requirements.	Serum alkaline phosphatase Men: 45-115 U/L; Women: 37-144 U/L Patient Result : Serum alkaline phosphatase - 61 IU/L	Your patient's diet should include foods that are rich in zinc, such as oysters, crab, fish, lean beef, lean pork, low-fat yogurt, pumpkin seeds, and almonds. If these foods are not part of your patient's regular diet, they may benefit from a supplement.	**PureGenomics® UltraMultivitamin** **Alternatives:** Zinc 30 PureGenomics® Multivitamin 60's Zinc 15
Omega-3 Fatty Acids					
FADS1 (rs174546)	Risk Variant : CT,TT Patient Variant : CT Result : Consider Action ! Scientific Rating : ★★★★★ 5 of 5	Individuals with these genotypes may have a reduced capacity to convert omega-3 fatty acid precursors (e.g. linolenic acid from flaxseed oil and other plant sources) to active omega-3 fatty acids (EPA and DHA).	Serum omega-3 index Adults: 1.4-4.9%	Your patient's diet should include cold-water fish, such as salmon and mackerel, that provide activated omega-3 fatty acids the body can easily use. Plant sources with omega-3, such as nuts, seeds, and seed oils, may not be enough. If these foods are not part of your patient's regular diet, they may benefit from a supplement.	**O.N.E.™ Omega** **Alternatives:** EPA/DHA essentials
FADS1 (rs174537)	Risk Variant : GT,TT Patient Variant : GT Result : Consider Action ! Scientific Rating : ★★★★☆ 4 of 5				

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
FADS1 (rs174547)	Risk Variant : CT,CC Patient Variant : CC Result : Consider Action ! Scientific Rating : 4 of 5				

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DETOXIFICATION

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Antioxidant Enzymes					
SOD2 (rs4880)	Risk Variant : AG,GG Patient Variant : AG Result : Consider Action Scientific Rating : ★★★★★ 5 of 5	Superoxide dismutase 2 (SOD2) is an antioxidant enzyme that detoxifies superoxide to prevent harmful levels from accumulating. This genotype is associated with reduced SOD2 function. NQO1 is an enzyme that detoxifies the quinone breakdown products of benzene, tobacco smoke, and other environmental toxins. This genotype is associated with reduced NQO1 function. The GPX1P1 enzyme is a member of the glutathione peroxidase family of enzymes. It detoxifies hydrogen peroxide, a reactive oxygen species formed during mitochondrial energy metabolism. This genotype has no effect on GPX1P1 enzyme function.	NutrEval® FMV (Genova Diagnostics®) includes an analysis of antioxidant status as part of the comprehensive evaluation. The Oxidative Stress Analysis 2.0 (Genova Diagnostics®) provides a more in-depth assessment of antioxidant defenses. Urinary F2-isoprostanes are also useful in assessing and monitoring systemic antioxidant status.	Your patient's diet should include lots of fruits and vegetables. Cruciferous vegetables such as broccoli, brussels sprouts, arugula, kale, and cauliflower are best. Eat them raw or avoid overcooking them. Too much heat can destroy the vegetable's antioxidant benefits. If these foods are not part of your patient's regular diet, they may benefit from a supplement. Your patient can benefit from regular exercise as it boosts antioxidant levels.	**Nrf2 Detox** **Alternatives:** DIM Detox 60's Buffered Ascorbic Acid powder 227 g Ascorbic Acid Capsules Buffered Ascorbic Acid Capsules Ascorbic Acid Powder 227 g
NQO1 (rs1800566)	Risk Variant : CT,TT Patient Variant : TT Result : Consider Action Scientific Rating : ★★★★☆ 4 of 5				
GPx1P1 (rs1050450)	Risk Variant : CT,TT Patient Variant : CC Result : No Action Scientific Rating : ★★★★★ 5 of 5				

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Environmental Toxins					
GSTP1 (rs1695)	Risk Variant : AG,GG Patient Variant : AG Result : Consider Action Scientific Rating : 2 of 5	GSTP1 is one of many glutathione sulfotransferase (GST) enzymes that participate in the elimination of environmental substances, which include toxins found in tobacco smoke. This genotype is associated with reduced enzyme function.	No recommendation	Your patient's diet should include lots of fruits and vegetables. Cruciferous vegetables such as broccoli, brussels sprouts, arugula, kale, and cauliflower are best. These help your body get rid of harmful substances from the environment. If these foods are not part of your patient's regular diet, they may benefit from a supplement. Your patient should avoid smoking and being around people that are smoking.	**Liposomal Glutathione** **Alternatives:** NAC (n-acetyl-l-cysteine) 600 mg DIM Detox 60's Alpha Lipoic Acid 600 mg Nrf2 Detox NAC (n-acetyl-l-cysteine) 900 mg Alpha Lipoic Acid 400 mg
Estrogen Metabolism					
COMT (rs4680)	Risk Variant : AA,AG Patient Variant : AA Result : Consider Action Scientific Rating : 2 of 5	COMT is an enzyme that detoxifies the reactive breakdown products of estrogen. Individuals with this genotype may have reduced enzyme activity.	Urinary estrogen metabolite ratio (2-OH(E1+E2) / 16α-OHE1) Indicates how effectively a patient methylates (detoxifies) estrogens (2-hydroxyestrone to 2-methoxyestrone) Premenopausal, luteal phase women: 0.3-13.7 Postmenopausal women: 0.3-15.1 Men: 0.8-12.9	Your patient's diet should include lots of cruciferous vegetables such as broccoli, brussels sprouts, arugula, kale, and cauliflower. These foods help balance estrogen levels in your body. If these foods are not part of your patient's regular diet, they may benefit from a supplement.	**DIM Detox 60's**

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Caffeine Metabolism					
CYP1A2 (rs762551)	Risk Variant : AC,CC Patient Variant : AC Result : Consider Action Scientific Rating : 2 of 5	Individuals with this genotype may metabolize caffeine more slowly.	No recommendation	Your patient should keep track of how much caffeine they drink in beverages like coffee, tea, and energy drinks. Consuming caffeine in the morning may also interfere with sleep. Consider other options that don't have caffeine if your patient needs support for occasional tiredness.	**Energy Xtra - IMPROVED**

WEIGHT MANAGEMENT

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Eating Between Meals					
MC4R (rs17782313)	Risk Variant : CT,CC Patient Variant : CT Result : Consider Action Scientific Rating : ★★★★★ 5 of 5	Individuals with this genotype are more likely to experience increased hunger and cravings between meals, leading to snacking and potential weight gain.	Body Composition Fat Mass Index as measured by dual energy x-ray absorptiometry (DEXA): Men: 3-6 kg/m²; Women: 5-9 kg/m² Body Mass Index (BMI) Adults: 18.5-24.9 Or other related metabolic testing Serum fasting glucose Adults: Between 70 and 100 mg/dL Patient Result : Serum fasting glucose - 100 mg/dL Serum HbA1c Adults: 4.0-5.6% Patient Result : Serum HbA1c - 6.2 %	If your patient snacks between meals, they should drink plenty of water and choose snacks that are low in calories or high in fiber. Good examples are a handful of almonds or a piece of fruit. Eating more protein at mealtimes will also help them feel full longer. If these foods are not part of your patient's regular diet, they may benefit from a supplement.	**Relora®** **Alternatives:** PureLean® Protein XanthiTrim 60's

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Protein Intake					
FTO (rs9939609)	Risk Variant : AT,AA Patient Variant : AT Result : Consider Action (!) Scientific Rating : ★★★★★ 5 of 5	Individuals with this genotype are more likely to benefit from a high-protein diet for healthy weight management.	Body Composition Fat Mass Index as measured by dual energy x-ray absorptiometry (DEXA): Men: 3-6 kg/m²; Women: 5-9 kg/m² Body Mass Index (BMI) Adults: 18.5-24.9 Or other related metabolic testing Serum fasting glucose Adults: Between 70 and 100 mg/dL Patient Result : Serum fasting glucose - 100 mg/dL Serum HbA1c Adults: 4.0-5.6% Patient Result : Serum HbA1c - 6.2 %	Include protein-rich foods at every meal. Good sources include meat, nuts, seeds, dairy, eggs, and legumes/beans. If these foods are not part of your patient's regular diet, they may benefit from a supplement.	**Relora®** **Alternatives:** PureLean® Protein XanthiTrim 60's

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Saturated Fat Response					
APOA2 (rs5082)	Risk Variant : GG Patient Variant : GG Result : Consider Action (!) Scientific Rating : ★★★★★ 5 of 5	Individuals with this genotype are more likely to lose some weight simply by reducing their saturated fat intake to less than 22 g/day.	Body Composition Fat Mass Index as measured by dual energy x-ray absorptiometry (DEXA): Men: 3-6 kg/m²; Women: 5-9 kg/m² Body Mass Index (BMI) Adults: 18.5-24.9	Your patient should limit the amount of saturated fat in their diet to 22g/day when trying to lose weight including fried foods, baked goods, processed meats (like pepperoni, sausage, and bacon), and foods that have lots of cream or butter. These are all high in saturated fat.	**Relora®**
Adiponectin Levels					
ADIPOQ (rs17366568)	Risk Variant : AG,AA Patient Variant : AG Result : Consider Action (!) Scientific Rating : ★★★★★ 5 of 5	This genotype is linked to reduced blood levels of adiponectin, a hormone that maintains healthy glucose and lipid metabolism. This relationship has been demonstrated in Caucasians of European descent. Its relevance to other ethnic groups has not been established.	Serum Adiponectin If BMI is <25 kg/m²: Men: 4-26 µg/mL; Women: 5-37 µg/mL If BMI is 25-30 kg/m²: Men: 4-20 µg/mL; Women: 5-28 µg/mL If BMI is >30 kg/m²: Men: 2-20 µg/mL; Women: 4-22 µg/mL	Scientific studies show that the 'Mediterranean Diet' may support healthy adiponectin levels. Your patient should consume fatty fish, like salmon or avocado that are high in "good"fats. If these foods are not part of your patient's regular diet, they may benefit from a supplement.	**O.N.E.™ Omega** **Alternatives:** Energy Xtra - IMPROVED EPA/DHA essentials

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Monounsaturated Fat Response					
PPARG (rs1801282)	Risk Variant : CG,GG Patient Variant : CG Result : Consider Action (!) Scientific Rating : ★★★★☆ 4 of 5	A higher intake of monounsaturated fat is associated with lower body weight in women with this genotype. More research is needed to determine whether this is also true in men.	No recommendation	Encourage your patient to add 1-2 tablespoons of Extra virgin olive oil and 1/4-1/2 cup of nuts each day to their diet. These foods have high amounts of monounsaturated fats. Avocados are also a rich source of these "healthy fats". If these foods are not part of your patient's regular diet, they may benefit from a supplement.	**Resveratrol EXTRA** **Alternatives:** XanthiTrim 60's

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CARDIOVASCULAR HEALTH

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Response to Saturated Fat					
ACE (rs4343)	Risk Variant : GG Patient Variant : GG Result : Consider Action Scientific Rating : ★★☆☆☆ 2 of 5	Individuals with this genotype may experience significant improvements in vascular function on a diet low in saturated fat, according to a small study.	Blood pressure <120/80 mm Hg	Your patient should limit how much of their daily calories come from fat to no more than 30%. They should cut back on salty foods and table salt and avoid foods that are very high in saturated fat. These include beef, butter, coconut, fried foods, cream, baked goods, chocolate, and processed meats (such as pepperoni, sausage, bacon).	**Magnesium Glycinate** **Alternatives:** Potassium (citrate) Nitric Oxide Ultra (capsules) 120's
Salt Sensitivity					
AGT (rs699)	Risk Variant : CT,CC Patient Variant : CC Result : Consider Action Scientific Rating : ★★☆☆☆ 2 of 5	Individuals with this genotype may have higher plasma angiotensin levels (a 10-30% increase was suggested in one study). These individuals may be more sensitive to the effects of dietary sodium on vascular function.	Blood pressure <120/80 mm Hg	Your patient should limit salt they eat to 2,300 mg a day. Your patient should make sure they eat enough foods that have potassium, like fruits and vegetables, aiming for 4,700 mg of potassium a day.	**Magnesium Glycinate** **Alternatives:** Potassium (citrate) Nitric Oxide Ultra (capsules) 120's
C-reactive Protein Level					
CRP (rs1205)	Risk Variant : CT,CC Patient Variant : CC Result : Consider Action Scientific Rating : ★★★★★ 5 of 5	Individuals with this genotype are more likely to have higher C-reactive protein (CRP) levels.	C-Reactive Protein, Cardiac <1.00 mg/dL Serum hsCRP Adults: <2.0 mg/L	The following recommendations have been shown to support healthy immune function: - Regular Exercise - At least 7-8 hours of restful sleep every night - Relaxation techniques, therapy, or meditation.	**O.N.E.™ Omega** **Alternatives:** CurcumaSorb 180's Balanced Immune 60's Resveratrol Resveratrol EXTRA EPA/DHA essentials

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Caffeine Metabolism					
CYP1A2 (rs762551)	Risk Variant : AC,CC Patient Variant : AC Result : Consider Action Scientific Rating : 4 of 5	Individuals with this genotype are more likely to metabolize caffeine more slowly. They may also be more sensitive to the effects of caffeine on cardiovascular function. Studies suggest a greater potential for adverse cardiovascular health effects when caffeinated coffee consumption exceeds 2-3 cups per day.	No recommendation	Your patient should keep track of how much caffeine they drink in beverages like coffee, tea, and energy drinks. Consuming caffeine in the morning may also interfere with sleep. Consider other options that don't have caffeine if your patient needs support for occasional tiredness.	**Energy Xtra - IMPROVED**
Blood Flow and Exercise					
EDN1 (rs5370)	Risk Variant : TT Patient Variant : GT Result : No Action Scientific Rating : 2 of 5	This genotype is associated with typical improvements in vascular function with regular exercise.	Blood pressure <120/80 mm Hg	Exercise alone may not improve your patient's blood vessel function. However, it is still recommended for overall health.	No recommendation
Paraoxonase-1 (PON1) Activity					
PON1 (rs662)	Risk Variant : CT,CC Patient Variant : CT Result : Consider Action Scientific Rating : 3 of 5	Paraoxonase 1 (PON1) is an HDL-associated enzyme that protects lipoproteins from the effects of oxidative stress. Individuals with this genotype may have lower levels of the PON1 enzyme.	Oxidized LDL (serum) <45 U/L	Your patient should eat foods that have a lot of antioxidants. These include colorful fruits and vegetables like berries, pomegranates, and also green tea. The "Mediterranean Diet"is also a good way to get more antioxidants.	**O.N.E.™ Omega** **Alternatives:** EPA/DHA essentials

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
HDL Cholesterol Level					
LIPC (rs1800588)	Risk Variant : CT,TT Patient Variant : CT Result : Consider Action Scientific Rating : 4 of 5	Individuals with this genotype tend to have lower HDL cholesterol.	HDL-P (Total) >30.5 umol/L Serum HDL-C Men: ≥40 mg/dL; Women: ≥50 mg/dL Patient Result : Serum HDL-C - 53 mg/dL	A good way to raise HDL (“good” cholesterol) levels is with exercise. Consider high-intensity interval training for your patient.	No recommendation
HDL Cholesterol and Exercise					
PPARD (rs2016520)	Risk Variant : CT,CC Patient Variant : TT Result : No Action Scientific Rating : 2 of 5	This genotype is associated with typical improvements in HDL cholesterol with regular exercise.	HDL-P (Total) >30.5 umol/L Serum HDL-C Men: ≥40 mg/dL; Women: ≥50 mg/dL Patient Result : Serum HDL-C - 53 mg/dL	Your patient may still see small improvements in their HDL (“good” cholesterol) levels with exercise. Exercise is a great tool to support your patient's overall health.	No recommendation
Coenzyme Q10 Levels					
SLCO1B1 (rs4149056)	Risk Variant : CT,CC Patient Variant : CT Result : Consider Action Scientific Rating : 1 of 5	Individuals with this genotype may be more likely to experience coenzyme Q10 (CoQ10) depletion with the use of simvastatin.	Serum coenzyme Q10 0.37–2.20 µg/mL	If your patient takes cholesterol medication, talk to your patient about this.	**PureGenomics® UltraMultivitamin Ubiquinol-QH 100 mg 60's** **Alternatives:** CoQ10 120 mg.

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GASTROINTESTINAL HEALTH

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Histamine Metabolism					
AOC1 (rs10156191)	Risk Variant : CT,TT Patient Variant : CT Result : Consider Action Scientific Rating : ★★☆☆☆ 2 of 5	Diamine oxidase (DAO), encoded by the AOC1 gene, is one of the enzymes that metabolize dietary histamine. Individuals with this genotype may have reduced DAO activity and a reduced capacity to metabolize dietary histamine.	- Symptoms following consumption of histamine-rich foods - Serum DAO - Zonulin level (serum) or lactulose/mannitol (urine)	Your patient may benefit from a low histamine diet, limiting the amount of meat, fermented and canned items, poultry, fish, tomatoes, chocolate, spinach, eggplant, avocado, and nuts.	**PureGenomics® UltraMultivitamin Quercetin** **Alternatives:** PureGenomics® Multivitamin 60's G.I. Integrity G.I. Fortify‡ 400 g
Lactose Intolerance					
MCM6 (rs4988235)	Risk Variant : AG,GG Patient Variant : AA Result : No Action Scientific Rating : ★★★☆☆ 3 of 5	This genotype is not associated with an increased likelihood of lactose intolerance.	Acute GI symptoms following consumption of milk and other dairy products Rule out dairy allergy	No recommendation	No recommendation
Processed Meat Sensitivity					
GATA3 (rs4143094)	Risk Variant : GT,TT Patient Variant : GT Result : Consider Action Scientific Rating : ★★★★☆ 4 of 5	Individuals with this genotype are more likely to benefit from reducing processed meat intake, according to gene-diet research focusing on long-term colon health.	Self-reported processed meat intake	Your patient may benefit from reducing processed meat to help with the health of their colon. Examples of processed meats they should avoid include deli meats, sausage, ham, pepperoni, and cured bacon.	No recommendation
Microbial Balance in the Stomach					
TLR4 (rs4986790)	Risk Variant : GG Patient Variant : GG Result : Consider Action Scientific Rating : ★★☆☆☆ 2 of 5	Individuals with this genotype are more likely to have an altered microbial composition in the stomach. Further assessment is recommended.	PCR testing (stool) Urea Breath Test Optional: Microbial stool profile, such as GI Effects® Comprehensive Profile — Stool (Genova)	Talk to your patient about further testing.	No recommendation

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Microbial Balance in the Intestine					
FUT2 (rs601338)	Risk Variant : AA Patient Variant : AA Result : Consider Action Scientific Rating : 2 of 5	Individuals with this genotype are more likely to have an altered intestinal microbial composition.	Stool microbial analysis Examples: ∘ GI Effects Comprehensive Stool Profile (Genova) ∘ Microbiology Analysis (Genova) ∘ Microbiology or Bacteriology Profile (Doctor's Data) Organic acids	Your patient should try eating foods high in fiber like vegetables and whole grains. Fermented foods like yogurt or kefir are also good.	**Poly-Prebiotic powder PureGG 25B** **Alternatives:** Epi-Integrity powder Probiotic-5 60's

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COGNITIVE HEALTH AND MEMORY

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Executive Function					
COMT (rs4680)	Risk Variant : GG, AA Patient Variant : GG Result : Consider Action Scientific Rating : 3 of 5	Individuals with the GG (Val/Val) genotype tend to have sharper executive function in stressful situations but are more likely to struggle in normal, non-stressful environments. This is likely due to lower levels of dopamine in the prefrontal cortex, a region of the brain that controls executive function.	No recommendation	Your patient should include protein-rich foods to support mental sharpness. Good sources include meat, nuts, seeds, dairy, eggs and legumes/beans. Regular exercise helps support your patient's mental sharpness.	**Rhodiola Rosea** **Alternatives:** DopaPlus 180's
Stimulant Sensitivity					
COMT (rs4680)	Risk Variant : AA Patient Variant : AA Result : Consider Action Scientific Rating : 2 of 5	Individuals with this genotype may be more sensitive to the effects of stimulant medications.	No recommendation	Your patient may be sensitive to stimulants that promote alertness.	No recommendation

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Serotonin Production					
TPH2 (rs4570625)	Risk Variant : GT,TT Patient Variant : TT Result : Consider Action Scientific Rating : 2 of 5	Tryptophan hydroxylase 2 (TPH2) is an enzyme that converts tryptophan to a serotonin precursor, 5-HTP. Serotonin helps to maintain a positive emotional state, promotes relaxation, and healthy eating behavior. Individuals with this genotype may have reduced TPH2 activity.	No recommendation	Your patient should consider eating lean meats, chicken, and fish because they contain tryptophan. It is important to eat a balanced diet containing lots of fruits and vegetables. Fruits and vegetables also support emotional health by providing essential vitamins, minerals, and fiber. If these foods are not part of your patient's regular diet, they may benefit from a supplement.	**5-HTP (5-Hydroxytryptophan) 50 mg** **Alternatives:** 5-HTP (5-Hydroxytryptophan) 100 mg SeroPlus
Brain-Derived Neurotrophic Factor					
BDNF (rs6265)	Risk Variant : AG,AA Patient Variant : AG Result : Consider Action Scientific Rating : 1 of 5	Individuals with this genotype tend to make lower amounts of brain-derived neurotrophic factor (BDNF).	No recommendation	Try to eat foods that have “healthy fats”, like salmon, sardines, and herring. Berries and other fruits, vegetables, teas, and spices also contain antioxidants that help your body make more BDNF. Regular exercise can help increase your patient's BDNF levels. Getting at least 7-8 hours of quality sleep every night can help your patient increase BDNF levels. Relaxation techniques, therapy, or meditation can help your patient decrease stress and increase BDNF levels.	**Magnesium Glycinate Lithium (orotate) 1 mg** **Alternatives:** CurcumaSorb 180's Lithium (orotate) 5 mg CurcumaSorb Mind 60's Trace Minerals 60's

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Dopamine Receptor Function					
DRD2 (rs6277)	Risk Variant : CT,TT Patient Variant : CT Result : Consider Action Scientific Rating : 2 of 5	The ability to respond to dopamine requires dopamine receptors. This result indicates that at least one relevant genotype is present, suggesting that dopamine receptor activity may be altered. Further research is required to determine the impact.	No recommendation	Your patient should eat plenty of lean meats (beef, pork, chicken); legumes (beans, lentils, chickpeas, peanuts); eggs, nuts, seeds, and leafy greens which provide folate and zinc in a form the body can easily use. If these foods are not part of your patient's regular diet, they may benefit from a supplement. Your patient should avoid smoking as it may alter dopamine receptor function.	**l-Tyrosine 90's** **DopaPlus 180's**
DRD2 (rs2283265)	Risk Variant : AC,AA Patient Variant : CC Result : No Action Scientific Rating : 2 of 5				
DRD2 (rs1076560)	Risk Variant : AC,AA Patient Variant : CC Result : No Action Scientific Rating : 4 of 5				
ANKK1-DRD2 (rs1800497)	Risk Variant : AG, AA Patient Variant : GG Result : No Action Scientific Rating : 2 of 5				

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Cannabis Response					
FAAH (rs324420)	Risk Variant : AC,AA Patient Variant : AC Result : Consider Action Scientific Rating : 3 of 5	Individuals with this genotype are more likely to engage in habitual cannabis use.	No recommendation	Your patient should use caution with THC-containing cannabis products as it may become a habit.	No recommendation

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IMMUNE HEALTH

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
IL-6 Activation					
IL-6 (rs1800795)	Risk Variant : CG,GG Patient Variant : GG Result : Consider Action Scientific Rating : 2 of 5	Individuals with this genotype may have a higher expression and/or blood levels of IL-6.	Plasma IL-6 Adults: ≤1.8 pg/mL	The following recommendations have been shown to support healthy immune function: - Regular Exercise - At least 7-8 hours of restful sleep every night - Relaxation techniques, therapy, or meditation.	**Balanced Immune 60's** **O.N.E.™ Omega** **Alternatives:** Th1 Support 120's EPA/DHA essentials
TNF-alpha Activation					
TNF (rs1800629)	Risk Variant : GA,AA Patient Variant : AG Result : Consider Action Scientific Rating : 2 of 5	Individuals with this genotype may have a higher expression and/or blood levels of TNF-alpha.	Serum TNF-alpha Adults: <5.6 pg/mL	The following recommendations have been shown to support healthy immune function: - Regular Exercise - At least 7-8 hours of restful sleep every night - Relaxation techniques, therapy, or meditation.	**Balanced Immune 60's** **O.N.E.™ Omega** **Alternatives:** EPA/DHA essentials
Vitamin A (Retinol)					
BCMO1 (rs7501331)	Risk Variant : CT,TT Patient Variant : CT Result : Consider Action Scientific Rating : 1 of 5	Individuals with this genotype may have a reduced capacity to convert beta-carotene to vitamin A (retinol). This may increase the need for directly consuming vitamin A.	Both assays are useful as vitamin A status may be low and serum beta-carotene levels may be elevated due to poor conversion to retinol. Serum beta-carotene Men: 4-51 mcg/dL; Women: 6-77 mcg/dL Serum retinol Adults: 32.5-78.0 mcg/dL	Eat more foods with vitamin A, such as organ meats (liver, kidney, etc.), eggs, cod liver oil, and dairy products. If these foods are not part of your patient's regular diet, they may benefit from a supplement.	**PureGenomics® UltraMultivitamin** **Alternatives:** PureGenomics® Multivitamin 60's Vitamin A + Carotenoids 90's

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
BCMO1 (rs12934922)	Risk Variant : AT,TT Patient Variant : AA Result : No Action Scientific Rating : ★☆☆☆☆ 1 of 5				
Vitamin C (Ascorbic Acid)					
SLC23A1 (rs33972313)	Risk Variant : AA,AG Patient Variant : missing-data Result : No Action Scientific Rating : ★★★★★ 5 of 5	Your testing service did not evaluate this marker	Dietary vitamin C intake 90 mg/day for men and 75 mg/day for women	No recommendation	No recommendation
Vitamin D					
GC (rs2282679)	Risk Variant : TG,GG Patient Variant : GT Result : Consider Action ! Scientific Rating : ★★★★★ 5 of 5	Individuals with this genotype are more likely to have increased vitamin D requirements.	Serum 25-hydroxy vitamin D Adults: 20-100 ng/mL	Eat foods that contain vitamin D such as mushrooms, fish, and lean pork. If these foods are not part of your patient's regular diet, they may benefit from a supplement. Sunlight is another source of vitamin D. In small amounts, regular sunlight exposure can help boost your vitamin D levels.	**PureGenomics® UltraMultivitamin** **Alternatives:** Vitamin D3 25 mcg (1,000 IU) Vitamin D3 125 mcg (5,000 IU) PureGenomics® Multivitamin 60's Vitamin D3 liquid 22.5 ml Vitamin D3 10 mcg (400 IU) 120's Vitamin D3 250 mcg (10,000 IU)
DHCR7 (rs12785878)	Risk Variant : TG,GG Patient Variant : TT Result : No Action Scientific Rating : ★★★★★ 5 of 5				

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
CYP2R1 (rs10741657)	Risk Variant : GA,GG Patient Variant : AA Result : No Action Scientific Rating : ★★★★★ 5 of 5				
Selenium					
GPx1P1 (rs1050450)	Risk Variant : TT Patient Variant : CC Result : No Action Scientific Rating : ★★☆☆☆ 2 of 5	This genotype has no effect on selenium status.	No recommendation	No recommendation	No recommendation
Microbial Balance in the Intestine					
FUT2 (rs601338)	Risk Variant : AA Patient Variant : AA Result : Consider Action ! Scientific Rating : ★★☆☆☆ 2 of 5	Individuals with this genotype are more likely to have an altered intestinal microbial composition.	Stool microbial analysis Examples: ∘ GI Effects Comprehensive Stool Profile (Genova) ∘ Microbiology Analysis (Genova) ∘ Microbiology or Bacteriology Profile (Doctor's Data) Organic acids	Your patient should try eating foods high in fiber like vegetables and whole grains. Fermented foods like yogurt or kefir are also good.	**Poly-Prebiotic powder PureGG 25B** **Alternatives:** Epi-Integrity powder Probiotic-5 60's
IL-4 Activation					
IL-4 (rs2243250)	Risk Variant : CT,TT Patient Variant : CC Result : No Action Scientific Rating : ★★☆☆☆ 2 of 5	This genotype is associated with typical IL-4 levels.	Basophil % (Serum) Adults: <2 Eosinophil % (Serum) Adults: <3	No recommendation	No recommendation

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
IL-6 Receptor Activation					
IL-6R (rs4129267)	Risk Variant : TT Patient Variant : CC Result : No Action Scientific Rating : ★★☆☆☆ 2 of 5	This genotype is associated with typical IL-6R levels.	GlycA Adults: <400 umol/L Neutrophil % (Serum) Adults: <68 Serum hsCRP Adults: <2.0 mg/L	No recommendation	No recommendation
IL-17a Activation					
IL-17a (rs2275913)	Risk Variant : AA Patient Variant : AG Result : No Action Scientific Rating : ★★☆☆☆ 2 of 5	This genotype is associated with typical IL-17a levels.	GlycA Adults: <400 umol/L Neutrophil % (Serum) Adults: <68 Serum hsCRP Adults: <2.0 mg/L	No recommendation	No recommendation

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ENERGY & FITNESS

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Strength & Power					
ACTN3 (rs1815739)	Risk Variant : CT,CC Patient Variant : TT Result : No Action Scientific Rating : ★★★★★ 5 of 5	These genotypes are associated with reduced strength and power potential.	No recommendation	Your patient is less likely to perform well in activities that need strength, power, and speed. However, physical fitness and diet have a much bigger effect on how good of an athlete they are. It is important to do sports and activities that they find enjoyable. They should choose a form of physical activity that they can do, and that they like to do.	No recommendation
ACE (rs4343)	Risk Variant : AG,GG Patient Variant : AA Result : No Action Scientific Rating : ★★★★★ 5 of 5				
Endurance					
ACTN3 (rs1815739)	Risk Variant : TT Patient Variant : CT Result : No Action Scientific Rating : ★★★★☆ 4 of 5	The genotype is associated with a typical endurance potential.	No recommendation	Your patient should choose a form of physical activity that they can do, and that they like to do.	No recommendation

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Tendon or Ligament Injury					
COL5A1 (rs12722)	Risk Variant : CT,TT Patient Variant : CT Result : Consider Action (!) Scientific Rating : ★★☆☆☆ 2 of 5	Individuals with these genotypes are more likely to be susceptible to exercise-related tendon or ligament injury.	History of tendon/ligament injury; participation in high-volume or high-intensity training	Regular exercise is part of a healthy lifestyle, however, it is important for your patient to stretch before and after playing sports or exercising. Your patient's risk of injury may be higher for activities like plyometrics (jump training), uphill running, or anything that requires quick, forceful movements. Your patient should include flexibility and mobility exercises for calves and knees as part of their routine to help prevent injury to a tendon or ligament.	**Ligament Restore‡**
COL1A1 (rs1800012)	Risk Variant : GT,GG Patient Variant : GG Result : Consider Action (!) Scientific Rating : ★★★★☆ 4 of 5				

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Achilles Tendon Injury					
MMP3 (rs679620)	Risk Variant : AG,GG Patient Variant : AG Result : Consider Action Scientific Rating : 4 of 5	Individuals with this genotype are more susceptible to Achilles tendon injury. Studies suggest that the risk of injury may be up to 2.5 times greater for this genotype compared to other genotypes.	History of Achilles tendon injury; participation in high-volume or high-intensity training, particularly running	It is important for your patient to stretch before and after playing sports or doing intense exercise. If you perform high-impact activities, like running and jumping, your patient may benefit from adding some low-impact activities, like cycling or swimming. This will give the tendons in their ankle a break so they can stay strong. Your patient should choose running shoes carefully and be sure to replace them when they are worn out.	**Ligament Restore‡**
Endurance Potential					
ADRB2 (rs1042713)	Risk Variant : AG,AA Patient Variant : AA Result : Enhanced Benefit Scientific Rating : 3 of 5	Individuals with this genotype may respond better to endurance training. Studies show that male endurance runners with this genotype had the fastest times. More research is needed to explore how it affects women.	No recommendation	Your patient may have a small genetic advantage in endurance sports (sports that require energy for a long time).	No recommendation
Aerobic Capacity					
PPARGC1A (rs8192678)	Risk Variant : AG,GG Patient Variant : GG Result : Enhanced Benefit Scientific Rating : 4 of 5	This genotype is common among elite athletes with a high level of aerobic fitness according to some studies.	No recommendation	Your patient may have a small genetic advantage that makes them better at aerobic fitness (cardio).	No recommendation

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Exercise-related Fatigue					
AMPD1 (rs17602729)	Risk Variant : TT Patient Variant : TT Result : Consider Action Scientific Rating : 2 of 5	Individuals with this genotype may be more susceptible to fatigue and cramping during high-intensity exercise.	No recommendation	Your patient may get tired quickly when they exercise, they may need to change to an easier, less intense workout. You may want to check if anything else could be making them tired when they exercise.	No recommendation
Body Fat and Exercise					
ADRB2 (rs1042713)	Risk Variant : AG,AA Patient Variant : AA Result : Enhanced Benefit Scientific Rating : 3 of 5	Women with this genotype may experience enhanced fat loss during endurance training. Currently, there is not enough scientific evidence to show whether this is also true in men.	Body Composition Fat Mass Index as measured by dual energy x-ray absorptiometry (DEXA): Men: 3-6 kg/m²; Women: 5-9 kg/m² Body Mass Index (BMI) Adults: 18.5-24.9	No recommendation	No recommendation
LPL (rs328)	Risk Variant : CG,GG Patient Variant : CC Result : No Action Scientific Rating : 2 of 5				

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Muscle Soreness					
ACTN3 (rs1815739)	Risk Variant : TT Patient Variant : TT Result : Consider Action Scientific Rating : 2 of 5	Individuals with this genotype are more likely to experience muscle soreness during short, intense bursts of activity, such as sprinting and weight training.	Serum cortisol AM: 7-25 mcg/dL; PM: 2-14 mcg/dL	If your patient's muscles are sore after the workout, they should make sure they get enough rest to let their body recover before the next workout. Managing daily stress and getting enough sleep will also help their muscles recover. Getting enough good quality sleep will help your patient's muscles recover effectively after a workout. Managing daily stress through breathing exercises, meditation, and other relaxation techniques will help your patient's muscles recover effectively after a workout.	**Phyto UltraComfort 120's** **Alternatives:** Systemic Enzyme Complex 180's l-Glutamine 850 mg l-Glutamine 500 Mg. l-Glutamine powder
Glucose Response to Exercise					
LIPC (rs1800588)	Risk Variant : CT,CC Patient Variant : CC Result : Enhanced Benefit Scientific Rating : 2 of 5	Individuals with this genotype are more likely to experience significant improvements in glucose metabolism when following an exercise program.	Or other related metabolic testing Serum fasting glucose Adults: Between 70 and 100 mg/dL Patient Result : Serum fasting glucose - 100 mg/dL Serum HbA1c Adults: 4.0-5.6% Patient Result : Serum HbA1c - 6.2 %	Exercise alone may provide noticeable improvements for your patient in balancing blood sugar. If you determine that it is appropriate they should consider setting aside time each day to engage in physical activity.	No recommendation

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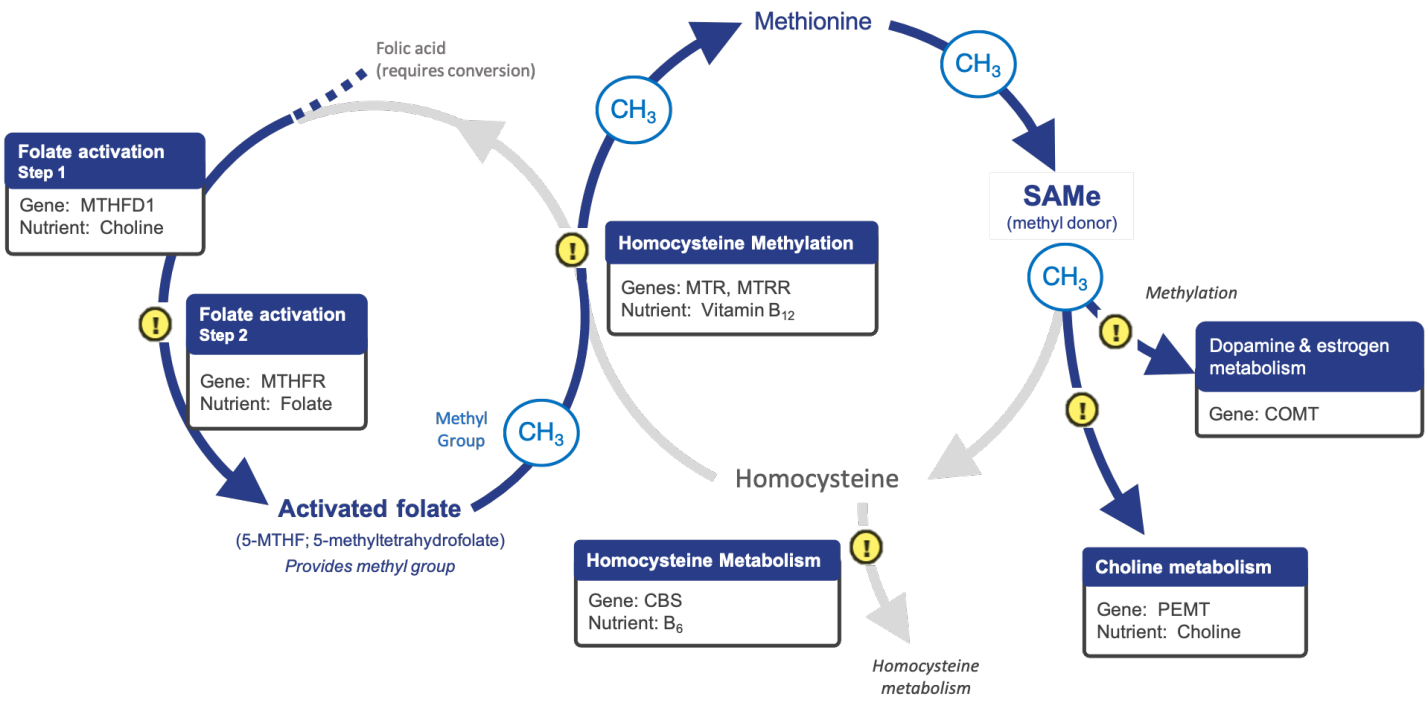
GLUCOSE METABOLISM

Traits SNPs	Risk Variant Patient Variant Result Scientific Rating	Implications	Assessment Recommendations	Diet & Lifestyle Recommendations	Supplement Recommendations
Glucose Metabolism					
TCF7L2 (rs7903146)	Risk Variant : CT, TT Patient Variant : CT Result : Consider Action (!) Scientific Rating : ★★★★★ 5 of 5	These genotypes may affect glucose metabolism.	LP-IR Score <=45.0 Or other related metabolic testing Serum fasting glucose Adults: Between 70 and 100 mg/dL Patient Result : Serum fasting glucose - 100 mg/dL Serum HbA1c Adults: 4.0-5.6% Patient Result : Serum HbA1c - 6.2 % Triglycerides 0-149 mg/dL Patient Result : Triglycerides - 120 mg/dL	Your patient should consider the 'Mediterranean Diet' or another type of plant-based diet. If these foods are not part of your patient's regular diet, they may benefit from a supplement.	**Metabolic Xtra**
ADRA2A (rs553668)	Risk Variant : AG, AA Patient Variant : GG Result : No Action Scientific Rating : ★★★★★ 5 of 5				

DIAGRAMS

The Methylation Pathway



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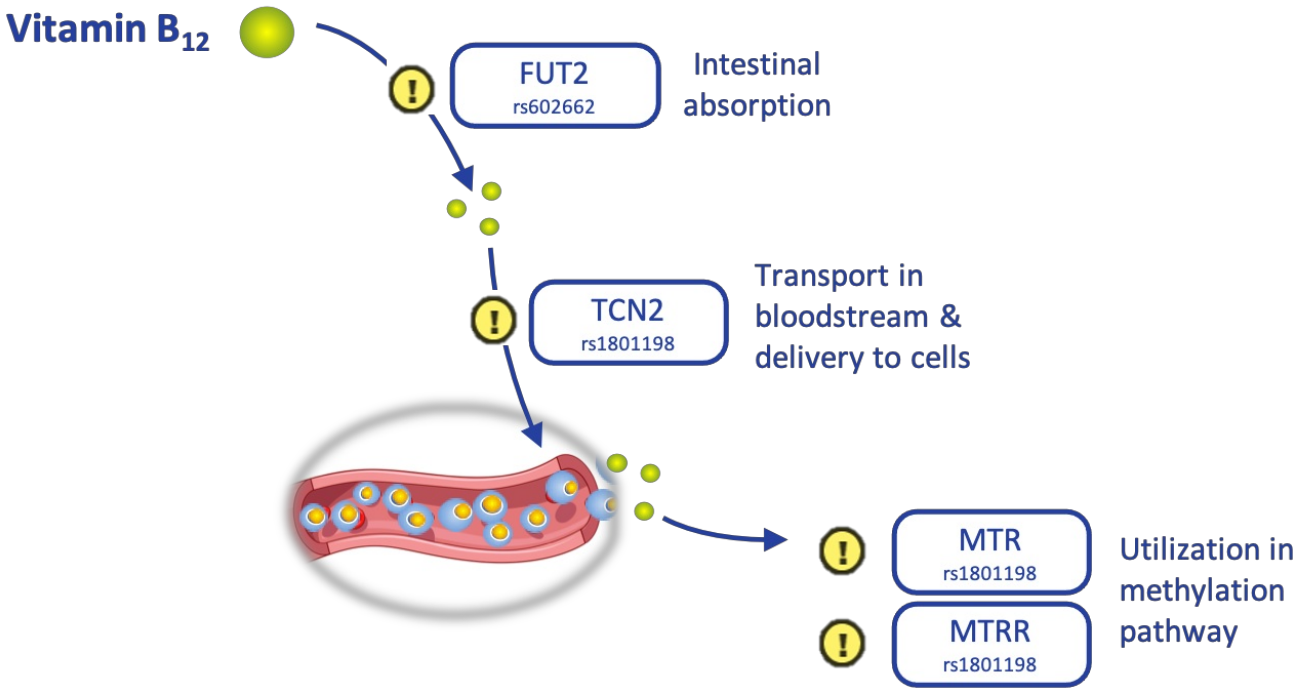
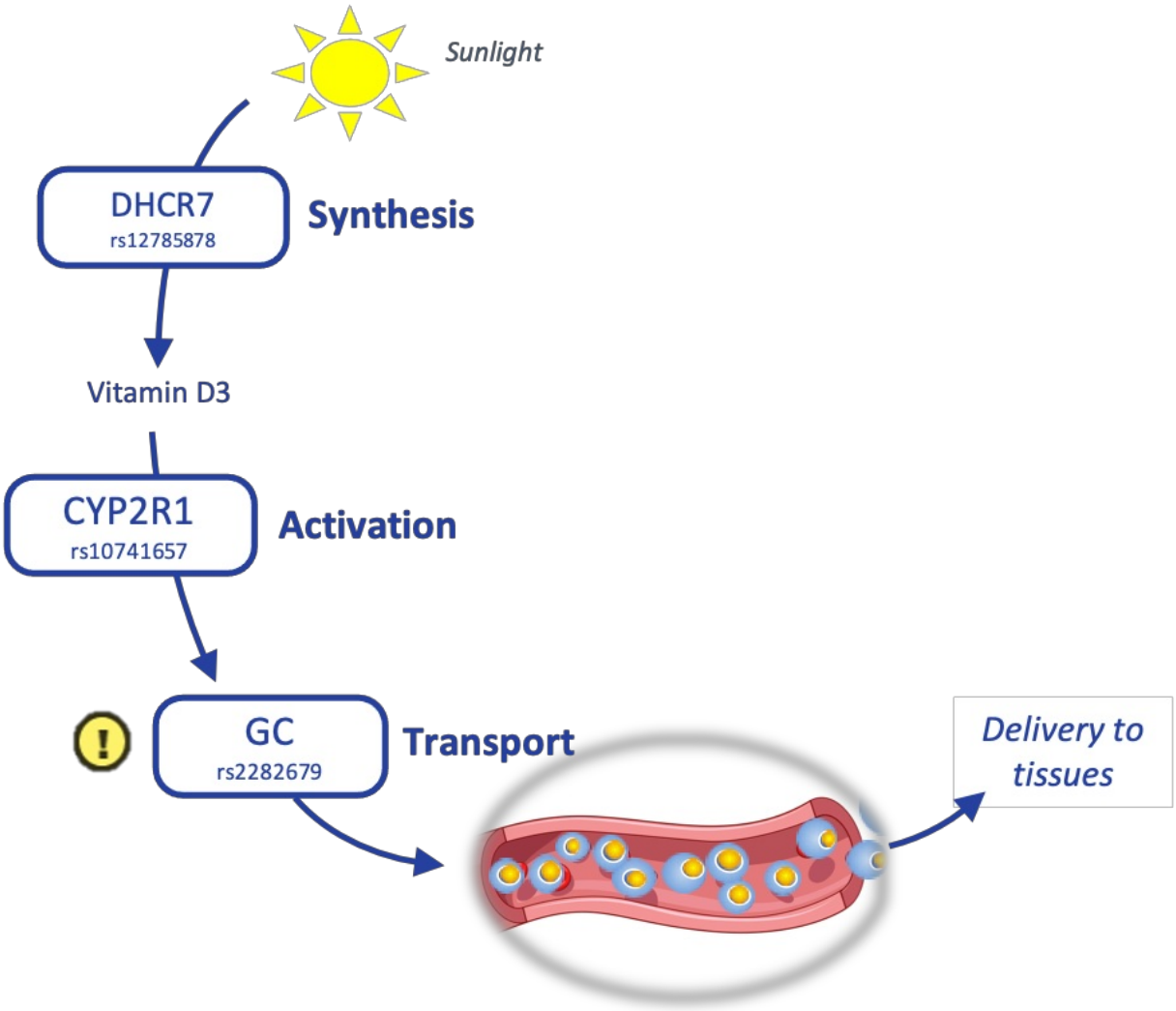
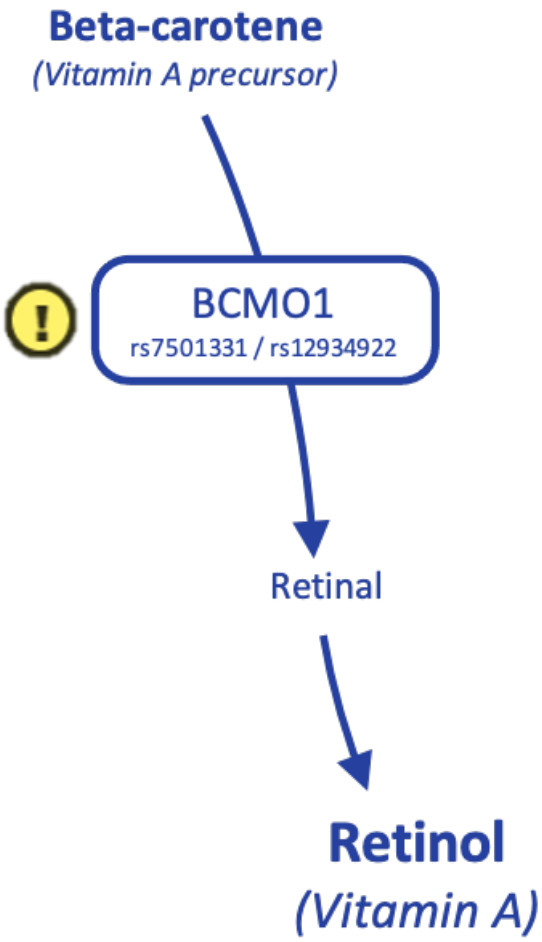
Vitamin B12



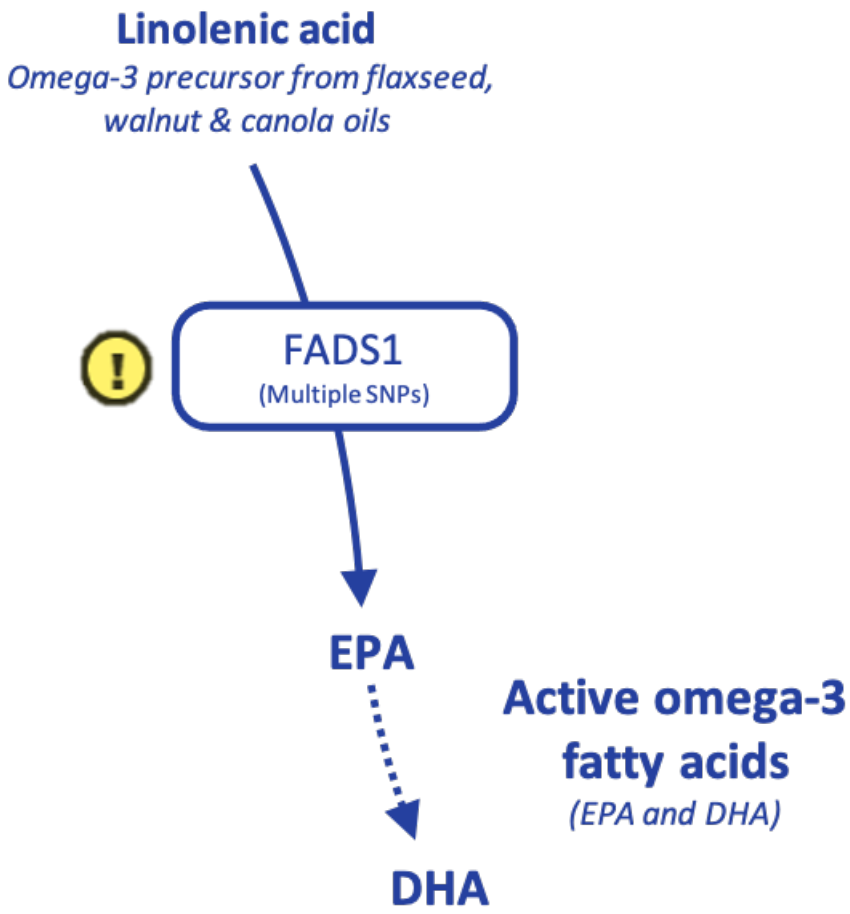
Vitamin D



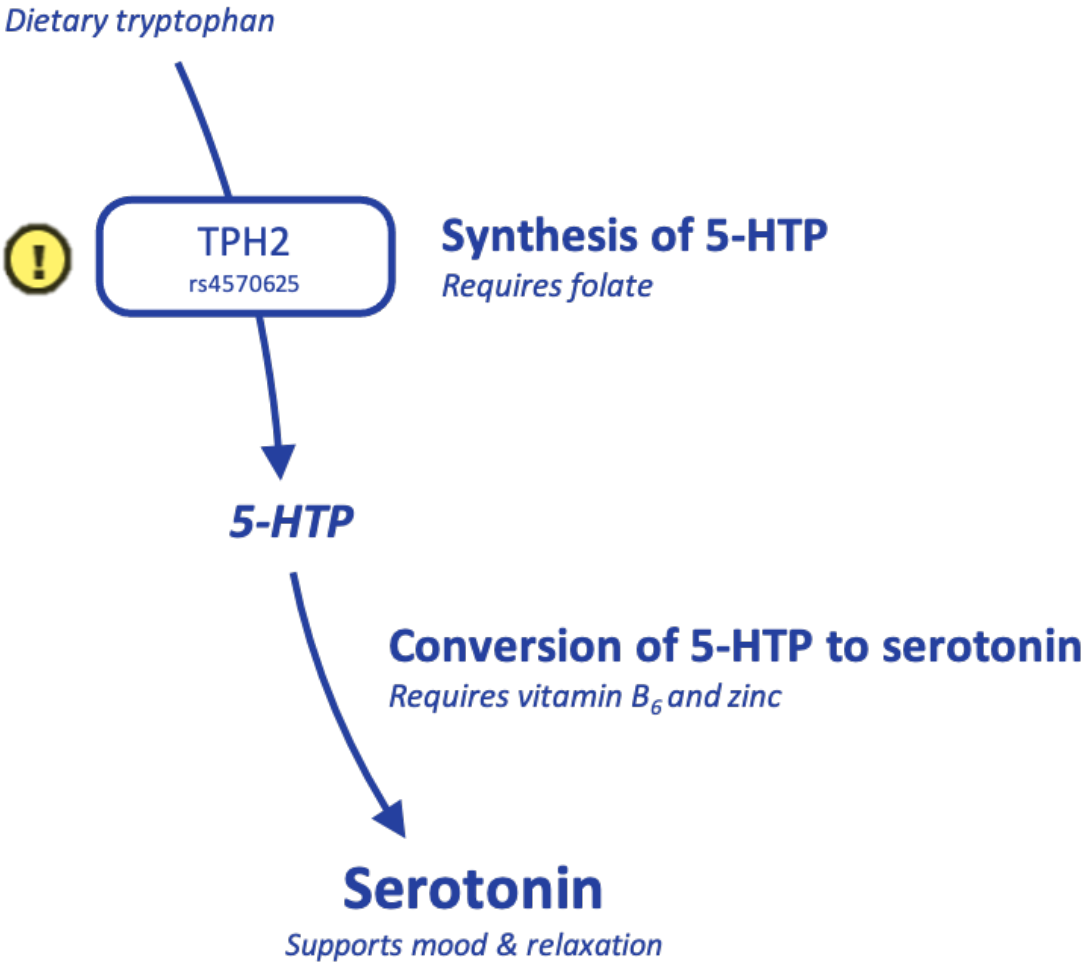
Vitamin A



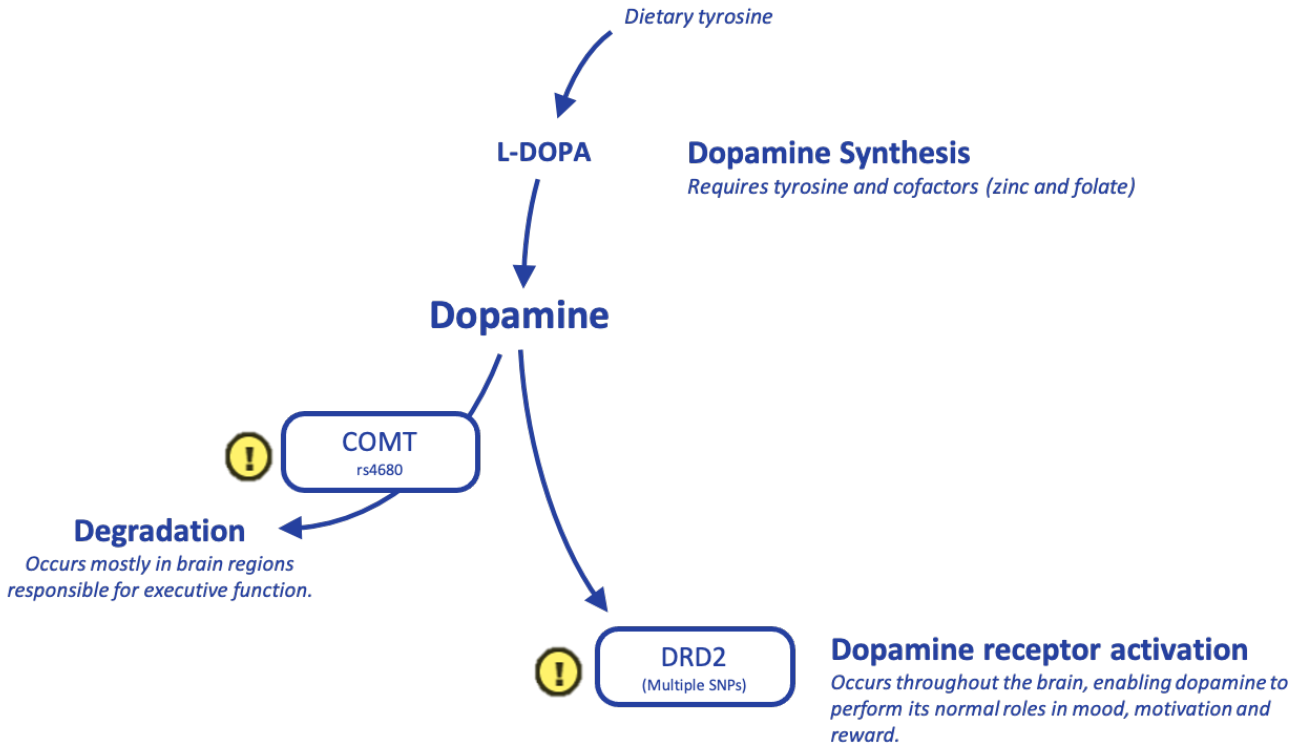
Omega 3



Serotonin Production



Dopamine Synthesis And Function



SUPPLEMENT SUGGESTIONS

VITAMINS, MINERALS & OMEGA-3S

Supplements	Dosage	Comment	Traits
PureGenomics® UltraMultivitamin	3 Capsule daily		Vitamin A (Retinol) Vitamin B2 (Riboflavin) Vitamin B6 (Pyridoxine) Folate Choline Vitamin B12 (Cobalamin) Vitamin D Vitamin E (Alpha-tocopherol) Zinc
Phosphatidylcholine	2 Softgel daily		Choline
Vitamin E (with mixed tocopherols)	1 Softgel daily		Vitamin E (Alpha-tocopherol)
O.N.E.™ Omega	1 Softgel daily		Omega-3 Fatty Acids

DETOXIFICATION

Supplements	Dosage	Comment	Traits
Nrf2 Detox	1 Capsule 1-3 times daily		Antioxidant Enzymes
Liposomal Glutathione	1 Softgel 1-2 times daily		Environmental Toxins
DIM Detox 60's	2 Capsule daily		Estrogen Metabolism
Energy Xtra - IMPROVED	1 Capsule daily		Caffeine Metabolism

WEIGHT MANAGEMENT

Supplements	Dosage	Comment	Traits
Relora®	1 Capsule 2 times daily		Eating Between Meals Protein Intake Saturated Fat Response
O.N.E.™ Omega	1 Softgel daily		Adiponectin Levels
Resveratrol EXTRA	1 Capsule daily		Monounsaturated Fat Response

CARDIOVASCULAR HEALTH

Supplements	Dosage	Comment	Traits
Magnesium Glycinate	1 Capsule daily		Response to Saturated Fat Salt Sensitivity
O.N.E.™ Omega	1 Softgel daily		C-reactive Protein Level Paraoxonase-1 (PON1) Activity
Energy Xtra - IMPROVED	1 Capsule daily		Caffeine Metabolism
PureGenomics® UltraMultivitamin	3 Capsule daily		Coenzyme Q10 Levels
Ubiquinol-QH 100 mg 60's	1 Softgel 1-2 times daily		Coenzyme Q10 Levels

GASTROINTESTINAL HEALTH

Supplements	Dosage	Comment	Traits
PureGenomics® UltraMultivitamin	3 Capsule daily		Histamine Metabolism
Quercetin	2 Capsule 1-2 times daily		Histamine Metabolism
Poly-Prebiotic powder	1 Powder 1-2 times daily		Microbial Balance in the Intestine
PureGG 25B	1 Capsule daily		Microbial Balance in the Intestine

COGNITIVE HEALTH AND MEMORY

Supplements	Dosage	Comment	Traits
Rhodiola Rosea	1 Capsule 1-2 times daily		Executive Function
5-HTP (5-Hydroxytryptophan) 50 mg	1 Capsule 1-4 times daily		Serotonin Production
Magnesium Glycinate	1 Capsule daily		Brain-Derived Neurotrophic Factor
Lithium (orotate) 1 mg	1 Capsule daily		Brain-Derived Neurotrophic Factor
l-Tyrosine 90's	1 Capsule 1-4 times daily		Dopamine Receptor Function
DopaPlus 180's	3 Capsule 1-2 times daily		Dopamine Receptor Function

IMMUNE HEALTH

Supplements	Dosage	Comment	Traits
Balanced Immune 60's	1 Capsule 1-2 times daily		IL-6 Activation TNF-alpha Activation
O.N.E.™ Omega	1 Softgel daily		IL-6 Activation TNF-alpha Activation
PureGenomics® UltraMultivitamin	3 Capsule daily		Vitamin A (Retinol) Vitamin D
Poly-Prebiotic powder	1 Powder 1-2 times daily		Microbial Balance in the Intestine
PureGG 25B	1 Capsule daily		Microbial Balance in the Intestine

ENERGY & FITNESS

Supplements	Dosage	Comment	Traits
Ligament Restore‡	2 Capsule 2 times daily		Tendon or Ligament Injury Achilles Tendon Injury
Phyto UltraComfort 120's	2 Capsule 1-3 times daily		Muscle Soreness

GLUCOSE METABOLISM

Supplements	Dosage	Comment	Traits
Metabolic Xtra	1 Capsule 1-3 times daily		Glucose Metabolism

LIFESTYLE SUGGESTIONS

NUTRITION AND DIET

Overview

We suggest the Heart Healthy Diet for your patient based on their genetic profile. This diet is predominantly plant-based, with an emphasis on whole, fresh foods and moderate amounts of protein largely from fish and seafood, as well as eggs, poultry, with minimally processed dairy to a lesser extent. Red meats are consumed rarely. Complex Carbohydrates including varied vegetables, fruits, herbs, spices, nuts, beans, whole grains, and olive oil comprise the base of this diet. A good rule of thumb is that 50-75% of your patient's plate should come from plant-based foods.

Suggested Macronutrient Sources

Protein	Fats	Carbohydrates
Low mercury fish (anchovies, catfish, herring, mackerel (north Atlantic, chub), salmon (fresh, wild), sardines, sole (pacific), tilapia, trout (freshwater), whitefish), poultry, eggs, quinoa, lentils, beans and other legumes, nuts, seeds, cheese, occasional red meat.	Olive oil and olives, avocado oil and avocado, nuts, seeds, fatty fish like salmon, halibut and mackerel, whole eggs, for essential fatty acids (omega 3s - DHA and EPA): flaxseed, fish and fish oils, avocado, eggs.	Sweet potatoes, squash, quinoa, brown rice, steel-cut oats, buckwheat, beans, legumes, lentils, fruit, root vegetables (carrots, parsnips, rutabaga, celery root, etc.).

Suggested Macronutrient Distribution

Suggested macronutrient distribution for your patient is 40-50% carbohydrates, 30% protein, and 20-30% fat. To effectively support blood sugar control and healthy body weight the lower end of the range for carbohydrates is likely to work better for your patient. (Original research: Remission of pre-diabetes to normal glucose tolerance in obese adults with high protein versus high carbohydrate diet: randomized control trial). If your patient is an athlete or very active they may require a carbohydrate intake at the higher end of the range depending on their goals. If weight loss is the desired goal then your patient can decrease total daily calories by 10-15%. If your patient is trying to lose weight then reducing the amount of saturated fat in their diet to less than 22g/day may help. If weight gain is the desired goal then your patient can increase total daily calories by 15%.

Additional Considerations	Increase	Decrease
	Avocados	Eggplant
	Berries	Spinach
	Broccoli	Tomatoes
	Cruciferous vegetables	Seafood
	Fresh fruit	Dairy products
	Fresh vegetables	Chocolate
	Fruits	Iron-rich foods like red meats
	Leafy green vegetables	Liver
	Mushroom	Organ meats (liver, kidney, etc.)
	Peas	Fermented foods
	Pomegranates	Salty preserved foods (pickles, pepperoni, salami, bacon, etc.)
	Vegetables	Cured bacon
	Watercress	Deli meats
	Green tea	Ham
	Herbs and spices	Pepperoni
	Beans	Sausage
	Legumes (like beans, lentils, chickpeas, and peanuts)	Salt
	Almonds	Canned foods
	Nuts	**Add**
	Pumpkin seeds	Apples
	Seeds	Arugula
	Sunflower seeds	Brussels sprouts
	Whole grains	Cauliflower
	Cold-water fish	Pears
	Low mercury fish	Kidney beans
	Mackerel	Quinoa
	Salmon	Herring
	Low-fat yogurt	Sardines
	Crab	Kefir
	Fish	Low-fat dairy
	Oysters	Chicken
	Butter	Turkey
	Cod liver oil	**Avoid**
	Extra virgin olive oil	Cream
	Lean beef	Coconut products
	Lean meats	Foods with butter
	Lean pork	Foods with cream
	Meat	Fatty beef
	Poultry	Red meat (grassfed is okay rarely)
	Eggs	Processed meats (such as pepperoni, sausage, bacon)
		Fried foods
		Baked goods

EXERCISE

Overview

Our genetics can influence how we perform during exercise and exercise can also influence the expression of certain genes. Exercise is an important part of a healthy lifestyle. Daily exercise promotes stress reduction and mental well-being, cognitive function, metabolism, sleep, as well as many other key body functions. Your patient should choose activities or sports that they enjoy doing and can do well. Getting out in nature can enhance many of the benefits of exercise, notably stress reduction and their sense of well-being.

Additional Considerations

Exercise can increase the amount of adiponectin in their body. Exercise helps support your patient's mental sharpness. Exercise can help increase BDNF levels. Exercise can help support a healthy immune system. Your patient should choose a form of physical activity that they can do and that they like to do. Regular exercise is part of a healthy lifestyle, however, it is important for your patient to stretch before and after playing sports or exercising. Your patient's risk of injury may be higher for activities like plyometrics (jump training), uphill running, or anything that requires quick, forceful movements. Your patient should Include flexibility and mobility exercises for calves and knees as part of their routine to help prevent injury to a tendon or ligament. It is important for your patient to stretch before and after playing sports or doing intense exercise. If you perform high-impact activities, like running and jumping, your patient may benefit from adding some low-impact activities, like cycling or swimming. This will give the tendons in their ankle a break so they can stay strong. Your patient should choose running shoes carefully and be sure to replace them when they are worn out. Your patient may have a small genetic advantage in endurance sports (sports that require energy for a long time). Your patient may have a small genetic advantage that makes them better at aerobic fitness (cardio). Your patient may get tired quickly when they exercise. They may need to change to an easier, less intense workout. You may want to check if anything else could be making them tired when they exercise. If your patient's muscles are sore after they workout, they should make sure they get enough rest to let their body recover before the next workout. Managing daily stress and getting enough sleep will also help their muscles recover. Exercise alone may provide noticeable improvements for your patient in balancing blood sugar. If you determine it's appropriate they should consider setting aside time each day to engage in physical activity.

SLEEP

Overview

Our genetics can influence how we sleep and sleep issues can also influence the expression of certain genes. Sleep is a critical component of overall health as many vital functions occur during this time of rest, such as cellular repair and rejuvenation, detoxification, and hormone repletion. Proper sleep is also important for immune health, emotional health, energy levels, metabolism, blood sugar regulation, and cognitive function. It is recommended that your patient get 7-9 hours of sleep per night. If your patient is having trouble with sleep, or if they are not well-rested each morning they may benefit from a more detailed consultation with you.

Additional Considerations

Getting at least 7-8 hours of restful sleep every night can help support healthy immune function for your patient. Getting at least 7-8 hours of quality sleep every night can help your patient increase their BDNF levels. Getting enough good quality sleep will help your patient's muscles recover effectively after a workout.

STRESS MANAGEMENT

Overview

Our genetics can influence how we experience and handle stress and stress can also influence the expression of certain genes. Stress is how the body reacts to both conscious and unconscious demands, changes, and other stimuli. This happens every moment of every day, whether we are aware of it or not. Our bodies are designed to handle a certain amount of stress, and beyond that, it can have detrimental effects on our health. Incorporating stress management techniques such as therapy, prayer, meditation, breathing exercises, a minute of silence, or even asking for help when needed can help mitigate the effects of stress in your patient's daily life. Incorporating stress-reducing techniques throughout your patient's day supports healthy immune and hormone function, energy levels, mental clarity, and mood.

Additional Considerations

Relaxation techniques, therapy, or meditation can help decrease your patient's stress which supports healthy immune function. Relaxation techniques, therapy, or meditation can help your patient decrease stress and increase BDNF levels. Managing daily stress through breathing exercises, meditation, and other relaxation techniques will help your patient's muscles recover effectively after a workout.

SUN EXPOSURE

Overview

Our genetics can influence the availability and conversion to the active form of Vitamin D in the body. Daily sun exposure is an important component of a healthy lifestyle. Skin exposure to sunlight produces Vitamin D which is essential for bone, mental health, immune function, and stress reduction. Getting out in the sun early in the day also supports a healthy circadian rhythm and sleep. Your patient should aim for 15–30 minutes of sunlight on exposed skin daily to produce adequate Vitamin D. Times may vary with skin color - people with darker skin may need a little more and people with lighter or sensitive skin may need less.

Additional Considerations

Based on your patient's genotype, exposure to sunlight for 15-30 minutes per day may help boost their Vitamin D levels and support a healthy circadian rhythm and sleep.

ENVIRONMENTAL EXPOSURES

Overview

Our genetics can influence how we respond to environmental toxins and exposures to toxins may also influence the expression of certain genes. There are many toxicants in the environment that can have detrimental effects on our health. Smog/ozone, car emissions, smoke, industrial pollutants, solvents, pesticides, herbicides, plastics, mycotoxins, and other chemicals can enter our bodies through the air, water, soil, and household products. It is best to minimize exposure to these to support detoxification, immune balance, and overall health. When preparing foods, avoid charring, burning, or overcooking foods as this is also a common environmental exposure. Filtering your water and air, as well as eating organic when possible can help decrease your total exposures.

Additional Considerations

Your patient should avoid smoking and also avoid being around people that are smoking.

MEDICATION AND SUBSTANCE USE

Overview

Our genetics can influence how medications and substances affect us and in some cases, they may also influence the expression of certain genes. Medications, recreational drugs, and substances such as caffeine and nicotine can have different effects on your patient's health. Stimulation, calming/sedation, and increased or decreased alertness are a few of the effects brought about by these substances and may either be positive or negative. Long-term use of certain substances may lead to undesired health consequences for your patient.

Additional Considerations

Your patient should keep track of how much caffeine they drink in beverages like coffee, tea, and energy drinks. Even if they drink them in the morning, they can interfere with sleep. Consider other options that don't have caffeine if your patient needs support for occasional tiredness. Your patient may be sensitive to stimulants that promote alertness. Your patient should use caution with THC containing cannabis products as it may become a habit. Your patient should avoid smoking as it may alter dopamine receptor function.