

The PureGenomics® Cardiovascular Health Protocol[‡]

Developed with Penny Kendall-Reed, N.D.⁺

Gene	SNP	Alleles	What it means	Diet & Lifestyle Recommendations	Pure Encapsulations® Products [‡]
ACE	rs4343	GG (+/+) GA (+/-) AA (-/-)	Individuals with GG genotypes are more susceptible to the vascular effects of high saturated fat intake (45% of total calories).	GG (+/+) <ul style="list-style-type: none"> Limit total fat intake to 30% of total daily calories. Consume saturated fats sparingly. Limit sodium intake to 2,300 mg per day. GA (+/-) or AA (-/-) <ul style="list-style-type: none"> No recommendations 	GG (+/+) <ul style="list-style-type: none"> Magnesium (glycinate), Nitric Oxide Ultra, Potassium Citrate GA (+/-) or AA (-/-) <ul style="list-style-type: none"> No Recommendations
AGT	rs699	CC (+/+) CT (+/-) TT (-/-)	This polymorphism alters plasma AGT levels, with a 10-30% increase among C allele carriers. These individuals may be more sensitive to the effects of dietary sodium on vascular function.	CC (+/+) or CT (+/-) <ul style="list-style-type: none"> Limit sodium intake to 2,300 mg per day and maintain adequate intake of potassium-rich foods, such as fruits and vegetables. Aim for a daily potassium intake of 4,700 mg per day. TT (-/-) <ul style="list-style-type: none"> No recommendations 	CC (+/+) or CT (+/-) <ul style="list-style-type: none"> Magnesium glycinate, Nitric Oxide Ultra (capsules), Potassium (citrate) TT (-/-) <ul style="list-style-type: none"> No Recommendations
CRP	rs1205	CC (+/+) CT (+/-) TT (-/-)	Individuals with the C allele (particularly CC genotypes) are predisposed to higher levels of C-reactive protein (CRP).	CC (+/+) or CT (+/-) <ul style="list-style-type: none"> Manage stress, maintain a healthy weight, get adequate sleep and exercise regularly. TT (-/-) <ul style="list-style-type: none"> No recommendations 	CC (+/+) or CT (+/-) <ul style="list-style-type: none"> Resveratrol, CurcumaSorb, EPA/DHA essentials. TT (-/-) <ul style="list-style-type: none"> No Recommendations
CYP1A2	rs762551	CC (+/+) AC (+/-) AA (-/-)	C allele carriers metabolize caffeine more slowly and are at greater risk for adverse cardiovascular health effects of moderate to heavy caffeinated coffee consumption (at least 2-3 cups of coffee per day).	CC (+/+) or AC (+/-) <ul style="list-style-type: none"> Be mindful of caffeine intake. Limit caffeinated coffee consumption to a maximum of 2 cups per day. Consider alternatives, such as adaptogenic herbs, for occasional fatigue. AA (-/-) <ul style="list-style-type: none"> No recommendations. 	CC (+/+) or AC (+/-) <ul style="list-style-type: none"> Energy Xtra AA (-/-) <ul style="list-style-type: none"> No Recommendations
EDN1	rs5370	TT (+/+) TG (+/-) GG (-/-)	The TT genotype enhances the benefits of regular aerobic exercise on vascular function, while G allele carriers are more likely to exhibit a typical or modest response.	TT (+/+) or TG (+/-) <ul style="list-style-type: none"> If maintaining healthy vascular function is a clinical goal, regular aerobic exercise should be a top priority. GG (-/-) <ul style="list-style-type: none"> No Recommendations 	<ul style="list-style-type: none"> No Recommendations
MTHFR	rs1801133	TT (+/+) TC (+/-) CC (-/-)	The TT genotype predicts superior response to riboflavin supplementation (1.6 mg/day), which supports vascular relaxation in these individuals. Patients with CT and CC genotypes are less likely to experience this unique benefit.	TT (+/+) <ul style="list-style-type: none"> Maintain adequate riboflavin (vitamin B₂) intake. Good sources of riboflavin include lean meats, eggs and dairy products. Supplementation is recommended if you do not tolerate these foods. TC (+/-) or CC (-/-) <ul style="list-style-type: none"> No Recommendations 	TT (+/+) <ul style="list-style-type: none"> PureGenomics® Multivitamin TC (+/-) or CC (-/-) <ul style="list-style-type: none"> No Recommendations
PON1	Q192R (rs662)	CC (+/+) CT (+/-) TT (-/-)	Paraoxonase-1 (PON1) is an antioxidant enzyme that helps to maintain lipoprotein redox status and cardiovascular health. This polymorphism, known as Q192R, alters its antioxidant activity.	CC (+/+) or CT (+/-) <ul style="list-style-type: none"> Consume a polyphenol-rich diet. Major sources of polyphenols that support PON1 include berries, pomegranate juice, tea, red wine. Mediterranean diet constituents, such as nuts, fruits and vegetables, have been effective in supporting this enzyme. Maintain adequate intake of antioxidants (vitamins C, E, beta carotene), selenium and essential fatty acids. TT (-/-) <ul style="list-style-type: none"> No Recommendations 	CC (+/+) or CT (+/-) <ul style="list-style-type: none"> EndoLOX, EPA/DHA essentials TT (-/-) <ul style="list-style-type: none"> No Recommendations

(continued)

Please note that these SNPs are markers of genetic predisposition supported by a limited, yet evolving body of evidence. Due to the many factors that modify their effects on physiology, a positive result does not necessarily mean that any or all of the recommended supplements are needed. Consider additional methods, such as those listed under Assessment Recommendations, to determine the need for support.

⁺Dr. Kendall-Reed is a retained advisor to Pure Encapsulations.

PureGenomics® nutritional information is not intended for use in the diagnosis, cure, mitigation, treatment or prevention of disease.

[‡]These statements have not been evaluated by the Food & Drug Administration. These products are not intended to diagnose, treat, cure or prevent any disease.

The PureGenomics® Cardiovascular Health Protocol[‡] (Cont.)

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Gene	SNP	Alleles	What it means	Diet & Lifestyle Recommendations	Pure Encapsulations® Products [‡]
PPARD	rs2016520	CC (+/+) CT (+/-) TT (-/-)	In the HERITAGE multicenter clinical study, greater increases in HDL were achieved among CT and CC genotypes following an exercise program. Carriers of the TT variant had a typical response.	CC (+/+) or CT (+/-) <ul style="list-style-type: none"> If improving HDL cholesterol is a core objective, make exercise a regular habit, as it is likely to result in significant improvements. TT (-/-) <ul style="list-style-type: none"> You are likely to achieve typical improvements in HDL cholesterol with regular exercise. 	<ul style="list-style-type: none"> No Recommendations
SLCO1B1	rs4149056	CC (+/+) CT (+/-) TT (-/-)	The C allele may increase the risk of coenzyme Q ₁₀ depletion in individuals receiving statins.	CC (+/+) or CT (+/-) <ul style="list-style-type: none"> Consider coenzyme Q₁₀ supplementation if receiving statins. TT (-/-) <ul style="list-style-type: none"> No Recommendations 	CC (+/+) or CT (+/-) <ul style="list-style-type: none"> CoQ₁₀ 120 mg or Ubiquinol-QH 100 mg TT (-/-) <ul style="list-style-type: none"> No Recommendations

Gene and SNP	Assessment Recommendations*
ACE (rs4343)	Blood pressure: <120/80
AGT (rs699)	Blood pressure: <120/80
CRP (rs1205)	hsCRP: Adults: <2.0 mg/L
CYP1A2 (rs762551)	Blood pressure: <120/80
EDN1 (rs5370)	Blood pressure: <120/80
MTHFR (rs1801133)	Blood pressure: <120/80
PON1 Q192R (rs662)	Oxidized LDL (serum): <45 U/L (Doctor's Data)
PPARD (rs2016520)	HDL-C: Men: 40 mg/dL or below; Women: 50 mg/dL or below
SLCO1B1 (rs4149056)	For patients receiving statins: Serum coenzyme Q ₁₀ : 0.37–2.20 µg/mL

*Reference ranges were obtained from LabCorp or Mayo Clinic unless otherwise noted. The American Heart Association recommends a systolic and diastolic blood pressure of less than 120 and 80 mm/Hg, respectively.

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The information contained herein is for informational purposes only and does not establish a doctor-patient relationship.

Available for download at PureEncapsulations.com/puregenomics-protocols



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