GeneHealth

Comprehensive Health Genetics · 95+ Genes · Cardiovascular, Metabolic, Immune, Hormonal, Longevity & Organ Health

PATIENT **Sarah Mitchell**	DATE OF BIRTH **1986-05-14 (Age 38)**	SAMPLE TYPE **Buccal (Cheek) Swab**	SAMPLE ID **GM-GH-2024-09112**
REPORT ID **GH-2024-88214**	COLLECTION DATE **2024-06-03**	REPORT DATE **2024-06-10**	LABORATORY **Gene Matrix CLIA Lab, Chicago, IL**
CLIA / NPI **14D2276402 / 1225729312**	ORDERING PROVIDER **Self-Ordered (DTC)**	METHOD **Illumina MassArray + Polygenic Scoring**	

95+ GENES ANALYZED	**6** HEALTH CATEGORIES	**8** ACTIONABLE INSIGHTS	**99.9%** ANALYTICAL ACCURACY

/ Executive Summary

Your GeneHealth profile covers six critical health categories — cardiovascular, metabolic, immune, hormonal, longevity, and organ health. The most significant finding is an APOE ε3/ε4 genotype, which is associated with increased cardiovascular disease risk and altered cholesterol metabolism. You also carry a heterozygous MTHFR C677T variant that reduces enzyme activity by approximately 35%, affecting homocysteine metabolism. Balanced ACE and normal NOS3 results indicate favorable blood-pressure regulation and vascular function.

Research insight: Studies show that individuals with favorable APOE variants have up to 40% lower cardiovascular disease risk compared to ε4 carriers — targeted prevention materially changes outcomes for ε4 carriers like you.

/ Genetic Findings

GENE	VARIANT	GENOTYPE	IMPACT	RECOMMENDATION
APOE	ε3/ε4	ε3/ε4	INCREASED RISK The APOE ε4 allele is associated with increased cardiovascular disease risk and altered cholesterol metabolism. Carriers may benefit from enhanced dietary fat management and regular cardiovascular monitoring.	Focus on Mediterranean diet patterns, omega-3 supplementation (2–3 g daily), and regular lipid panel monitoring every 6 months.

MTHFR	C677T (rs1801133)	C/T (heterozygous)	MODERATE IMPACT This variant reduces MTHFR enzyme activity by approximately 35%, affecting homocysteine metabolism and cardiovascular health. Elevated homocysteine is a known cardiovascular risk factor.	Supplement with methylated B vitamins (methylfolate 800 mcg, methylcobalamin 1000 mcg daily) and monitor homocysteine levels annually.
ACE	Insertion/Deletion (I/D)	I/D	BALANCED Heterozygous ACE insertion/deletion variant shows balanced cardiovascular response. No significant increased risk for hypertension or cardiac events.	Maintain standard cardiovascular health practices including regular exercise and blood pressure monitoring.
NOS3	G894T	G/G (normal)	PROTECTIVE Normal NOS3 variant supports optimal nitric oxide production and vascular health. This is associated with better endothelial function and cardiovascular protection.	Support nitric oxide pathways with dietary nitrates (leafy greens, beets) and regular aerobic exercise.
FOXO3	Longevity-associated allele	Carrier	PROTECTIVE You carry the FOXO3 longevity variant associated with exceptional healthspan in centenarian studies.	Protective factor — pair with consistent sleep, exercise, and stress management to maximize this genetic advantage.
SIRT1	rs7896005	A/G	MODERATE IMPACT SIRT1 variants influence cellular aging and metabolic regulation; your genotype suggests a moderate benefit from caloric-quality and exercise interventions.	Prioritize protein quality, resistance training, and avoid chronic overeating to support sirtuin pathway activity.

/ Health Category Summary

Your GeneHealth results across the six analyzed health categories.

CATEGORY	RESULT	CLINICAL IMPLICATION
Cardiovascular Health	ATTENTION	APOE ε4 carrier — Mediterranean diet, omega-3s, and 6-month lipid monitoring recommended.
Metabolic Health	OPTIMAL	No significant diabetes or metabolic-syndrome risk variants detected.
Immune System	OPTIMAL	Inflammation markers within expected genetic range.
Hormonal Balance	REVIEW	MTHFR-related methylation support recommended; thyroid genes within normal range.
Longevity & Aging	FAVORABLE	FOXO3 longevity variant detected; SIRT1 support protocol included.
Organ Health	OPTIMAL	Detoxification capacity and liver/kidney markers within expected range.

/ Personalized Recommendations

Cardiovascular Prevention Plan

- Adopt a Mediterranean diet pattern and supplement omega-3 (2–3 g EPA/DHA daily).
- Lipid panel every 6 months — APOE ε4 carriers respond especially well to dietary fat management.
- If cholesterol remains elevated despite lifestyle measures, discuss statin therapy with your physician — it dramatically lowers risk even with this variant.

Methylation & Energy Support

- Methylfolate 800 mcg + methylcobalamin 1000 mcg daily — the bioavailable forms your MTHFR variant requires.
- Monitor homocysteine annually; target the normal reference range.
- Eat folate-rich leafy greens daily.

Monitoring Schedule

- Blood pressure: home checks monthly; lipid panel and homocysteine: every 6–12 months.
- Share this report with your primary care physician to build your preventive health plan.
- Premium members receive quarterly report updates as new research emerges.

Laboratory: Gene Matrix LLC · 1375 W Fulton St STE 545, Chicago, IL 60607 · CLIA ID: 14D2276402 · NPI: 1225729312 · (847) 302-9668 · support@genematrix.io · Mon–Fri 8AM–5PM CT. Testing performed in a CLIA-certified, CAP-accredited laboratory using next-generation sequencing. Analytical accuracy 99.9%. All findings reviewed by board-certified geneticists.
Report ID: GH-2024-88214 · **Generated:** 2024-06-10 · Confidential — intended for the named patient and their care team.