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ACTUAL PERSON USING 23ANDME

Dear Actual,

Thank you for connecting! As you know, the goal here is to give you specific and actionable ways to improve your health based on your own unique DNA code. That's what this is all about.

In this report, you will find recommendations for many practical and useful things. These things include nutrients or supplements you should be sure to get, chemicals you should be sure to carefully avoid, and overall weak spots in your genes and strategies to fix those weak spots.

All this information is based on your genes. By all means, take additional supplements and avoid additional chemicals but be extra vigilant about the ones listed in your report below and the other issues that will be discussed.

One overarching word of caution I pass along to everyone: avoid hypochondria regarding your health and your genetic variants! Our bodies stockpile important vitamins and minerals and we build up resistance and resilience as we grow stronger and healthier. This can be a slow process but it's a journey for everyone. Neurotic stress causes setbacks. Systemic (whole-body) stress promotes bad gut bacteria leading to a host of problems. Enjoy life and don't let stress win!

Ever Upward,

Dr. Anthony G. Jay



Disclaimer

This test and its report are meant strictly for research use only (RUO) purposes. This report is solely intended as an educational/recreational tool, and is not intended for use in medical decision-making without the consultation of a licensed health care professional. This test is not intended for Direct to Consumer (OTC) use, and any and all healthcare decisions ultimately return entirely to the healthcare provider. This test has not been cleared or approved by the U.S. Food and Drug Administration nor Health Canada (or affiliated regulatory agencies) as it is meant strictly as a recreational/educational tool and can only be dispensed through a medical professional.

1. BRAIN OPTIMIZATION GENES

Alzheimer's, Brain Performance, and Cholesterol

+/- CETP - rs5882

***[BLOOD / LABS] Keep fasted triglyceride below 125 mg/dL. If triglycerides are high, use cardio training every other day or so and strategies listed here, as needed:*

<https://selfhacked.com/blog/triglycerides/>

Alzheimer's, Brain Performance, and Heavy Metals

Alzheimer's, Brain Performance, and BDNF

+/- BDNF - rs6265

***Utilize endurance exercise to increase BDNF. If you are unable to perform endurance exercise, supplement curcumin as a preventative measure and for brain optimization, probably 1 month on, 1 month off. Extra info related to increasing BDNF:*

<https://selfhacked.com/blog/a-comprehensive-list-of-natural-ways-to-increase-bdnf/>

Alzheimer's, Brain Performance, and Inflammation

+/+ CLU - rs11136000

***Intermittent fasting is an excellent tool to optimize your brain function and help prevent Alzheimer's.*

Alzheimer's, Brain Performance, and Carbs

Stress

Melancholy [Serotonin]

Anxiety [Serotonin]

+/- TPH2 - rs4570625

***IF you struggle with anxiety, learn about increasing serotonin naturally:*

<https://content.selfdecode.com/how-to-increase-serotonin/>

For supplements, you might also try 5-HTP and L-tryptophan on an empty stomach before bedtime. Separately, you might also switch to St. John's Wort and L-tryptophan. Even more supplement options can be found here:

<https://content.selfdecode.com/serotonin-supplements/>

Anxiety [Caffeine]

+/- ADORA2A [1] - rs2298383

***IF you struggle with anxiety and you consume caffeine, eliminate the caffeine. It will usually take 1 month to fully detox from it.*

+/- ADORA2A [2] - rs4822492

***IF you struggle with anxiety and you consume caffeine, eliminate the caffeine. It will usually take 1 month to fully detox from it.*

+/- ADORA2A [3] - rs5751876

***IF you struggle with anxiety and you consume caffeine, eliminate the caffeine. It will usually take 1 month to fully detox from it.*

Caffeine [Metabolism]

+/- CYP1A2 - rs762551

***Caffeine stays in your body slightly longer than average.*

Impulsivity

+/+ DBH - rs1611115

***IF you have issues with aggression or problematic forms of impulsivity, supplement copper and vitamin C regularly.*

Lifespan

2. DIET OPTIMIZATION GENES

Dairy

Processed Meats

Type 1 Diabetes

+/+ [HLA-DQA1 \[1\] - rs9272346](#)

***[BLOOD / LABS] IF you have chronically high fasted blood sugar (greater than 90 mg/dL is too high for fasted blood sugar), don't rule out Type 1 diabetes without cause. Dr. Jake Kushner has excellent information on this topic if this is a concern, especially in his podcast with Dr. Peter Attia, episode #41.*

Type 2 Diabetes [Melatonin]

Type 2 Diabetes [Insulin/Inflammation]

+/+ [HHEX - rs7923837](#)

***Daily exercise is key to keeping your pancreas healthy. Pure beet juice or beets or L-citrulline are all useful to have regularly if you're unable to exercise regularly.*

Type 2 Diabetes [Zinc Transport]

+/+ [SLC30A8 - rs13266634](#)

***[PRIORITY] Supplement zinc unless you get optimal amounts in your diet. The best source is red meat. 100 grams of red meat contains about 50% of your daily value of zinc.*

Type 2 Diabetes [Glucose Metabolism]

Type 2 Diabetes [Feeding Time]

+/+ [MC4R \[1\] - rs2229616](#)

***Skip breakfast or investigate some similar form of intermittent fasting.*

Metformin

+/- [ATM \[1\] - rs4585](#)

+/- [ATM \[2\] - rs11212617](#)

Obesity [FTO]

+/- FTO [1] - rs1121980

***Skip breakfast or investigate some similar form of intermittent fasting. Cold showers may also be useful or cryotherapy.*

Obesity [Adiponectin]

+/+ ADIPOQ [2] - rs2241766

***Skip breakfast or investigate some similar form of intermittent fasting.*

+/+ ADIPOQ [3] - rs17300539

***Skip breakfast or investigate some similar form of intermittent fasting.*

Obesity / Metabolic Syndrome

Heart Palpitations

Heart Disease [Iron]

Heart Disease [Immune Related]

Heart Disease [Lipids / Cholesterol]

+/+ LPL [1] - rs326

***[BLOOD / LABS] Keep fasted triglyceride below 125 mg/dL. If triglycerides are high, use cardio training every other day or so and strategies listed here, as needed:
<https://selfhacked.com/blog/triglycerides/>*

+/+ PPARG - rs1801282

Heart Disease [Increased Homocysteine]

Heart Disease [Lectin-Related]

Heart Disease [Sugar Related]

Heart Disease [Hyaluronic Acid]

+/- HABP2 - rs7080536

***[PRIORITY] Supplement hyaluronic acid daily, unless you consistently consume bone broth.*

Heart Disease [Flavonoids]

+/+ [CDKN2A - rs1333049](#)

****[PRIORITY]** Supplement grape seed proanthocyanidins unless you eat numerous colorful plants on a daily basis.

+/+ [CDKN2B - rs1333048](#)

****[PRIORITY]** Supplement grape seed proanthocyanidins unless you eat numerous colorful plants on a daily basis.

CRP Blood Levels

+/+ [IL6R - rs4129267](#)

****[BLOOD / LABS]** Monitor your CRP on future bloodwork (ideally, stay below 1 mg/L). If high, helpful supplement examples include DHA or quercetin or melatonin or vitamin E tocotrienols. Read these articles for several additional options for supplements, ideal foods, and extra info: <https://selfhacked.com/blog/c-reactive-protein/> & <https://selfhacked.com/blog/interleukin-6/>

+/- [CRP - rs3093059](#)

****[BLOOD / LABS]** Monitor your CRP on future bloodwork (ideally, stay below 1 mg/L). If high, supplement with DHA or quercetin or melatonin or vitamin E tocotrienols. Retest your levels until you have lower CRP. Avoiding processed food is also key. Read this articles for several additional options for supplements, ideal foods, and extra info: <https://selfhacked.com/blog/c-reactive-protein/>

Leaky Gut

+/- [ATG16L1 \[1\] - rs2241880](#)

****Skip breakfast or investigate some similar form of intermittent fasting.**

+/- [SLC22A4 - rs1050152](#)

****IF you have gut issues, eat plenty of mushrooms or supplement using a mushroom powder such as cordyceps or reishi or similar.**

+/- [IL1B - rs1143634](#)

****IF you have gut issues, supplement curcumin or many other options listed at: <https://selfhacked.com/blog/interleukin-1/>**

+/+ [CCR6 - rs2301436](#)

Skin

+/- HCP5 ERAP1 - rs10484554

***IF you have skin issues, focus on improving your microbiome. Often, kimchi or other low-carb fermented products are excellent. You might also try supplements like Culturelle by Digest Health or Align Probiotics. The major goal is to decrease LPS from bad bacteria: <https://selfhacked.com/blog/lipopolysaccharides/>
Also, decreasing TNF-alpha is key: <https://selfhacked.com/blog/supplements-lifestyle-factors-influence-tnf-interleukin-6-il-6/>*

+/- POU5F1 - rs1265159

***IF you have skin issues, supplement retinol.*

3. VITAMIN, HORMONE, & DETOX GENES

Sulfate/Sulfites

Iron Levels

+/+ TF - rs1799852

***[BLOOD / LABS] Monitor your transferrin in particular. Supplement vitamin A (with fat or foods with fats to improve gut uptake) if you have low transferrin because that increases transferrin. Carefully monitor your iron using TIBC, Serum Iron, Transferrin, and Serum Ferritin to ensure they are in the normal ranges.*

Vitamin D

+/+ DHCR7 - rs12785878

***[BLOOD / LABS] Monitor your blood levels of D3. Aim for a blood vitamin D3 level of 55-70 ng/mL. You likely need to take between 2,000 and 10,000 IU of vitamin D3 per day, unless you are getting a lot of sunshine. Sunshine is always preferred. Do not supplement D3 in the evening because it inhibits melatonin and often disrupts sleep cycles. Also, take vitamin K2 with your D3 to prevent calcium from building up in your arteries.*

+/- CYP2R1 Minor [2] - rs10741657

***[BLOOD / LABS] Monitor your blood levels of D3. Aim for a blood vitamin D3 level of 55-70 ng/mL. You likely need to take between 2,000 and 10,000 IU of vitamin D3 per day, unless you are getting a lot of sunshine. Sunshine is always preferred. Do not supplement D3 in the evening because it inhibits melatonin and often disrupts sleep cycles. Also, take vitamin K2 with your D3 to prevent calcium from building up in your arteries.*

+/+ VDR Bsm [1] - rs1544410

***[BLOOD / LABS] Monitor your blood levels of D3. Aim for a blood vitamin D3 level of 55-70 ng/mL. You likely need to take between 2,000 and 10,000 IU of vitamin D3 per day, unless you are getting a lot of sunshine. Sunshine is always preferred. Do not supplement D3 in the evening because it inhibits melatonin and often disrupts sleep cycles. Also, take vitamin K2 with your D3 to prevent calcium from building up in your arteries.*

Pesticides/Cleaning Chemicals

Testosterone

+/- FAM9B - rs5934505

****[BLOOD / LABS]** Monitor your free testosterone and total testosterone. The ranges vary based on age and sex but you want to be on the high end of the range. This is because averages Americans are so low they've adjusted the "normal" range to include people that are suboptimally low in testosterone. Dr. Keith Nichols is an excellent M.D. in this field (<https://tier1hw.com/>).

SHBG

Estrogen

+/+ ESR1 Minor [3] - rs9340799

****IF** you have issues with cognitive performance, supplement resveratrol in cycles, one month on, one month off.

+/- CYP1B1 L432V - rs1056836

****Regularly** eat plenty of plants from the Brassica family such as broccoli, cauliflower, brussels sprouts, cabbage, and kale to balance estrogen. Use a sauna at least 3-times per week, 180 degrees Fahrenheit, at least 10 minutes per session. Most importantly, avoid artificial estrogen chemicals as outlined in the Estrogenation book.

+/- CYP2C19*17 [1] - rs12248560

****[BLOOD / LABS]** Beware of low omega-3 fatty acid levels. Consider testing your omega-3 fats using OmegaQuant. Include capsaicin supplements when you supplement omega-3's since these inhibit CYP2C19. This gene may also cause lower levels of estrogen, depending on your other estrogen genes. Keep an eye on your estrogen levels when testing blood.

Thyroid

+/+ CTLA4 - rs231775

****[BLOOD / LABS] + [PRIORITY]** Supplement iodine every other day. Salt is not a sufficient iodine source for you. Use the Cyrex Labs to determine your food sensitivities (select the "Multiple Food Immune Reactivity Screen"). Avoid problem foods. Watch your T4, T3, Reverse T3, and TSH on future blood tests and employ natural methods to improve levels if they are off. Natural methods are listed here: <https://selfhacked.com/blog/hypothyroidism-may-good-autoimmunity/>

+/- FOXE1 [1] - rs965513

****[BLOOD / LABS] + [PRIORITY]** Supplement iodine every other day and use intermittent fasting to increase autophagy to help your body heal. Salt is not a sufficient iodine source for you. Watch your T4, T3, Reverse T3, and TSH on future blood tests and employ natural methods to improve levels if they are off or work with a medical doctor for Armour Thyroid or similar as a last resort. Natural methods are listed here: <https://selfhacked.com/blog/hypothyroidism-may-good-autoimmunity/>

+/+ DIO1 - rs2235544

****[BLOOD / LABS] + [PRIORITY]** Supplement iodine every other day. You might also add tyrosine if you have low energy or your thyroid hormones are suboptimal. Salt is not a sufficient iodine source for you. Watch your T4, T3, Reverse T3, and TSH on future blood tests and employ natural methods to improve levels if they are off or work with a medical doctor for Armour Thyroid or similar as a last resort. Natural methods are listed here: <https://selfhacked.com/blog/hypothyroidism-may-good-autoimmunity/>

Histamine Intolerance

+/- AOC1 Major - rs2052129

****[PRIORITY]** Supplement copper unless you regularly eat liver or leafy greens.

Beta Carotene/Retinol

+/+ BCO1 Minor - rs12934922

****[PRIORITY]** Supplement retinol, together with fats, unless you are getting from your diet every day. Butter has some, eggs have some, but liver is by far the best source. Liver pills may be a good option if you can't stand the taste of liver but liver paté with bacon and rosemary often just tastes like bacon. Be sure to consider your iron levels and any gene issues you may have there because liver has a lot of iron, which means you may need to avoid it. Genes aren't always compatible because of our "melting pot" backgrounds.

Nightshades/Insecticides

Plant Sterols

Cannabis

+/- AKT1 - rs2494732

Catecholamines

Biotin

+/- BTD - rs13078881

****[PRIORITY]** Supplement biotin.

Bilirubin

+/+ UGT1A1 [1] - rs887829

****[BLOOD / LABS]** Keep tabs on your bilirubin levels. If it gets above 1.2 mg/dL, get more sunshine and use aspirin or other salicylates. Work with your doctor to retest frequently and soon to optimize these things.

+/+ UGT1A1 [2] - rs6742078

****[BLOOD / LABS]** Keep tabs on your bilirubin levels. If it gets above 1.2 mg/dL, get more sunshine and use aspirin or other salicylates. Work with your doctor to retest frequently and soon to optimize these things.

Methionine

B6

B9 [aka Folate]

+/- MTHFR A1298C [2] - rs1801131

****[PRIORITY]** Supplement 1 mg of 5-MTHF ("methyl folate") regularly unless you eat leafy greens daily or every other day. Also, avoid folic acid, usually found in multivitamins and grain products. Next, consider getting a "hair heavy metals" test through a company like Great Plains Lab. This is a long-term snapshot of heavy metal buildup and allows precise targeting to lower any excess heavy metals you might have. The preferred hair test is here: <https://www.greatplainslaboratory.com/metals-hair-test>

+/- MTHFD1 - rs2236225

****[PRIORITY]** Supplement 1 mg of 5-MTHF ("methyl folate") regularly unless you eat leafy greens daily or every other day. Also, avoid folic acid, usually found in multivitamins and grain products. Also, experiment with supplementing choline and methionine separately. If you don't notice dramatic benefits, exclude them. Otherwise, include them in your overall supplement plan, one month on and one month off. Egg yolks have substantial amounts of choline to avoid supplements in place of food.

+/+ MTRR - rs1532268

****[BLOOD / LABS]** Monitor your blood for homocysteine. If homocysteine is above the normal range, supplement folate for a few weeks and retest for homocysteine levels. Always avoid folic acid found in cheap multivitamins and grains.

+/+ CBS - rs234706

****[BLOOD / LABS]** Monitor your blood for homocysteine. If homocysteine is above the normal range, supplement folate for a few weeks and retest for homocysteine levels.

B12

+/+ MTRR - rs1532268

***[PRIORITY] Supplement B12 daily, unless you eat plenty of meat, especially if you are taking metformin.*

Vitamin E

+/+ GSTP1 - rs1695

***Avoid supplementing standard vitamin E [tocopherol]. It will cause inflammation in your body. You might supplement tocotrienols, one month on and one month off. For more information, listen to this podcast with Dr. Barrie Tan:*

<https://bengreenfieldfitness.com/podcast/supplements-podcasts/vitamin-e-dangers/>

Heavy Metals

+/+ CBS [1] - rs234709

***[BLOOD / LABS] Test your hair for heavy metals, especially arsenic. IF arsenic is high, only occasionally consume brussels sprouts, dark-meat fish (tuna, bluefish, swordfish, salmon, and sardines), rice [from certain countries], mass-produced chicken (free-range organic is good), beer, and wine. The preferred hair test is here:*

<https://www.greatplainslaboratory.com/metals-hair-test>

Fructose

+/+ PNPLA3 - rs738409

***Avoid consuming fructose on a regular basis.*

4. GYM GENES

Muscle Types

- +/- ACTN3 - rs1815739
- +/- ADRB3 - rs4994
- +/+ BDKRB2 - rs1799722

Training Program Variety

Joints [Inflammation]

- +/+ IL2RA - rs2104286
***IF you have joint pain, eliminating chronic inflammation is key but if you continue to have joint pain, try 3 grams per day of krill oil for 8 weeks.*
- +/- IL1B - rs1143634
***IF you have joint pain, gut health is key and try supplementing curcumin or many other options listed at: <https://selfhacked.com/blog/interleukin-1/>*
- +/- HLA-DRB1 [1] - rs660895
***IF you have chronic joint pain, try the keto diet for 6-weeks and remain fairly low carb in your regular diet.*
- +/- HLA-DRB1 [2] - rs6910071
***IF you have chronic joint pain, try the keto diet for 6-weeks and remain fairly low carb in your regular diet.*
- +/- HLA-DRB9 - rs9268839
***IF you have chronic joint pain, try the keto diet for 6-weeks and remain fairly low carb in your regular diet.*
- +/- HLA-DQA1 - rs6457617
***IF you have chronic joint pain, try the keto diet for 6-weeks and remain fairly low carb in your regular diet.*

Joints [Iodine]

- +/+ DIO2 [1] - rs12885300
***[BLOOD / LABS] + [PRIORITY] Supplement iodine every other day. Salt is not a sufficient source of iodine. IF you have joint pain, optimize thyroid hormones with diet. Track these 4 blood markers: TSH, Reverse T3, Free T3, and Free T4. As a last resort, work with a medical doctor for something like Armour Thyroid etc.*

Joints [Bloodflow]

+/- ITGAV - rs3738919

***Move your joints throughout the day to increase blood flow in and out. Infrared light also helps increase this bloodflow (e.g. Joovv or Sauna Space lights), especially if you are required to be sedentary (e.g. post-surgery or similar).*

+/- PADI4 - rs2240340

***IF you have joint pain, separately try supplementing arginine and citrulline before exercise.*

Joints [Gout]

+/+ SLC2A9 [2] - rs7442295

***Avoid sugar and fructose, especially in forms that quickly spike your blood sugar. Dr. Peter Attia has an excellent podcast on this topic as well:
<https://peterattiamd.com/rickjohnson/>*

Back Discs

+/+ CILP - rs2073711

***[PRIORITY] Consume bone broth or supplement collagen daily or every few days.*

+/- IL1A - rs1800587

***IF you have back pain, supplement curcumin or many other options listed at:
<https://selfhacked.com/blog/interleukin-1/>*

Blood Pressure

+/+ SLC4A5 [2] - rs10177833

Muscle Cramps

Bone Strength

+/+ Wnt16 [1] - rs9525638

IGF

Pain Sensitivity

5. SLEEP GENES

Early Riser

Late Riser

Stays Up Later

+/- [PER3 - rs228697](#)

***IF you have sleep issues, use an Oura Ring to monitor possible your deep sleep and REM cycles. Aim to get at least 1.5 hours of each of these cycles and 1 hour at a minimum. Along with food and exercise timing, exposure to blue light is key for re-programming sleep patterns (if you need to re-program sleep patterns).*

Delayed Sleep Cycles

General Sleep Difficulties

+/+ [WWC1 - rs17070145](#)

***Poor sleep leads to poor cognitive performance. Nicotine might be useful, on rare occasions, to rescue this performance loss.*

Melatonin

Blue Light

Seasonal Affective Disorder

+/+ [PER3 \[1\] - rs139315125](#)

***IF you have seasonal affective issues, along with food and exercise timing, exposure to blue light is key for re-programming sleep patterns (if you need to re-program sleep patterns). Nothing beats natural sunshine in a place like Florida during the winter months and blue blocking glasses in the evenings, once the sun goes down. An excellent book is called "Why We Sleep" by Dr. Matthew Walker.*