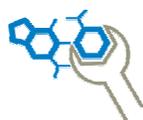


More information: <http://diygenomics.pbworks.com/Aging>



DIYgenomics Aging Study

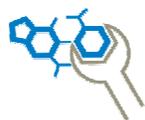
Genomics + physical biomarkers + intervention

Study segment	Offering tiers ¹	
	“Prius”	“Tesla”
<p>I. Top twenty genomic mechanisms of aging</p> <ol style="list-style-type: none"> 1. Aging-specific genetics (overall profile, IGF-1/insulin signaling, inflammation, immune system, DNA damage repair, cell cycle, telomere length, mitochondrial health) 2. Diabetes and metabolic disease (cholesterol, obesity, adiposity, fat distribution) 3. Catabolism (waste removal) and other (Alzheimer’s disease, macular degeneration, rheumatoid arthritis, osteoporosis, sarcopenia, kidney and liver disease) 4. Heart disease and blood operations (cardiovascular disease, atherosclerosis, myocardial infarction, atrial fibrillation) 5. Cancer (profile for twenty cancers including breast, prostate, colorectal, lung, melanoma, glioma, ovarian, pancreatic) 	<p>Genotyping (23andMe) \$499</p>	<p>Whole human genome sequencing (Illumina) \$20,000</p> <p>or</p> <p>Exome sequencing (EdgeBio) \$6,000</p>
<p>II. Top twenty phenotypic biomarkers of aging</p> <ol style="list-style-type: none"> 1. Aging-specific markers (telomere length, lymphocyte regeneration, CD levels, inflammation, hormone levels) 2. Diabetes and metabolic disease (BMI, cholesterol (HDL/LDL/triglycerides; LDL particle size), Framingham Risk Score, fasting glucose, non-fasting glucose, albumin, uric acid) 3. Catabolism and other (VO2 max, bone mineral density, muscle mass, GOT, GPT, creatinine, eGFR) 4. Heart disease and blood operations (blood pressure, hematocrit, hemoglobin, RBC, WBC, CRP, platelets, erythrocyte glycosylation) 5. Cancer (granulocyte strength, blood-assay) 	<p>Basic Blood Panel (DirectLabs)² \$97 or (Life Extension Foundation)³ \$269</p>	<ul style="list-style-type: none"> •Comprehensive Blood Panel (Life Extension Foundation) \$668 or (Kronos) \$1,725 •Telomere length (SpectraCell) \$345 or (Repeat Diagnostics) \$400 •Lymphocyte strength (SpectraCell) \$320 •AGEs (Advanced Glycation Endproducts) Reader (DiagnOptics) \$25,000
<p>III. Interventions</p> <ol style="list-style-type: none"> 1. Traditional (exercise, nutrition, sleep, vitamins, stress-reduction) 2. Novel (brain fitness programs and mid-life cholesterol management for Alzheimer’s disease, TA-65 telomerase activation for telomere length management, resistance weight lifting for sarcopenia, interval training and aerobic exercise for VO2 max improvement, blood-based assays for early detection of cancer, rheumatoid arthritis, macular degeneration, kidney and liver disease) 		<p>TA-65 (TA Sciences, Recharge Biomedical) \$2,400/yr</p> <p>Predictive blood assays (ISB, UCLA, Ohio St Univ) \$n/a; clinical trial</p>
Total citizen scientist cost: year one / subsequent years	\$526 / \$97	\$24,470 / \$4,470

¹Order directly from vendors to self-experiment and decide anytime whether to share your data with the citizen science study.

²DirectLabs: <https://directlabs.com/Home/CWP/tabid/192/language/en-US/Default.aspx>

³Life Extension Foundation: <http://www.lef.org/Vitamins-Supplements/ItemLC322535/Female-Panel-Blood-Test.html>, <http://www.lef.org/Vitamins-Supplements/ItemLC322582/Male-Panel-Blood-Test.html>



DIYgenomics

Crowd-sourced clinical trials. Personal genome apps.

Join a study! Design your own study!

- *MTHFR study*

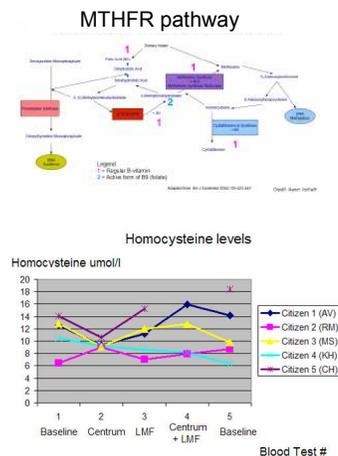
Check two potential genetic typos that might render B vitamin absorption less effective and try different interventions for lowering homocysteine (http://www.diygenomics.org/images/MTHFR_protocol.png)

- *Aging study*

Investigate the top twenty genomic markers of aging, the top twenty physical signs of aging, and interventions. Check your SNPs for the Boston University signature of exceptional longevity¹ (http://diygenomics.org/citizengenomics/bu_longevity.php, http://www.diygenomics.org/files/flyer_aging_study.pdf)

- *New studies*

Organize a health or behavioral genomics study of your choice (ideas: <http://diygenomics.pbworks.com>)



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- *Health Risk*

Consumer genomics comparison of the top twenty conditions covered by 23andMe, deCODEme, and Navigenics, and the ability to privately upload and review your own data

- *Drug Response*

Your personal response information for 250 drugs including aspirin, clopidogrel (Plavix), morphine, sildenafil (Viagra), and warfarin

- *Athletic Performance*

Your personal profile for the top categories of athletic performance including strength, endurance, muscle development, and recovery

iPhone, iPad



Android



Visit <http://www.diygenomics.org>

¹Sebastiani P et al. Genetic Signatures of Exceptional Longevity in Humans. Science. 2010 Jul 21.