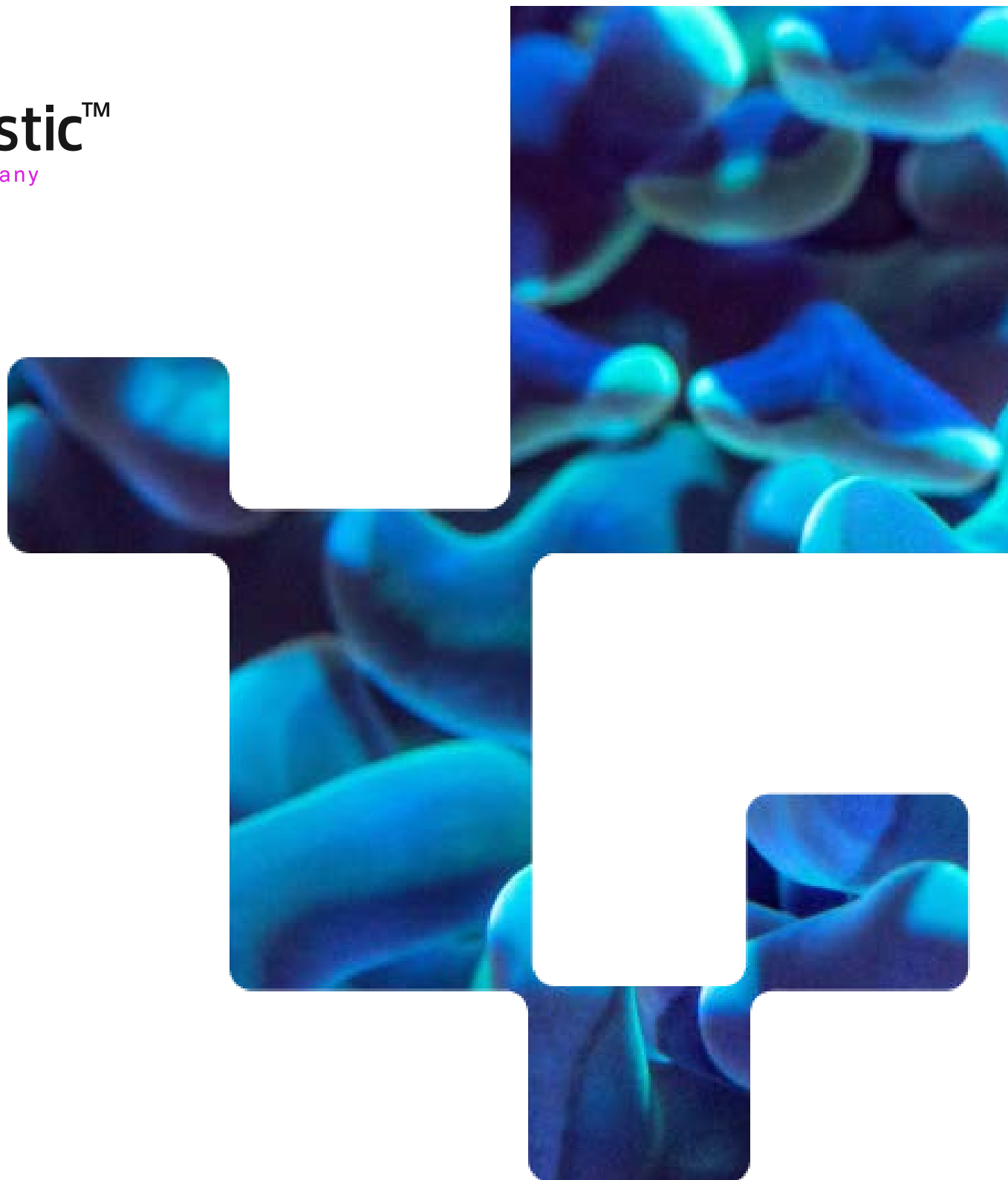




Advanced TruAge Report

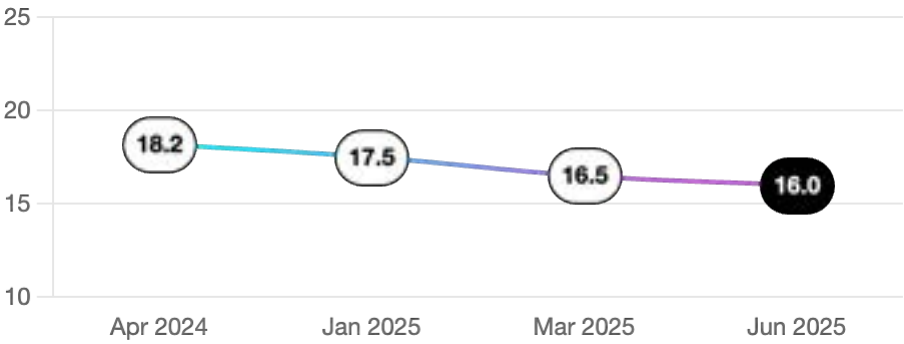
Jane Doe

Age: 28 | Sex: Female

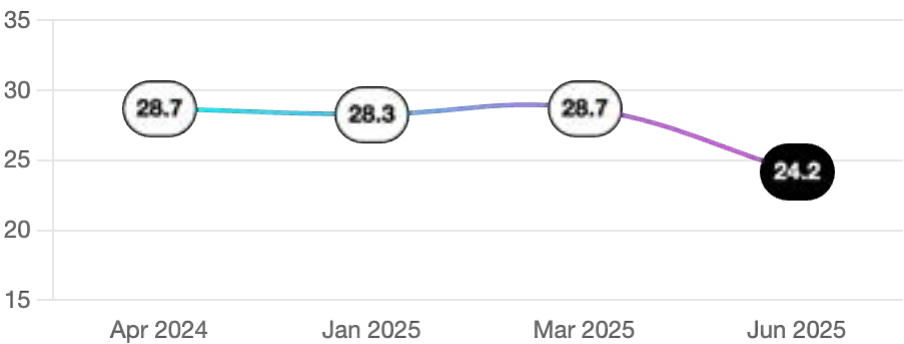
ID#: 2A3ALUD

Collected: 05/05/2025 | Reported: 06/23/2025

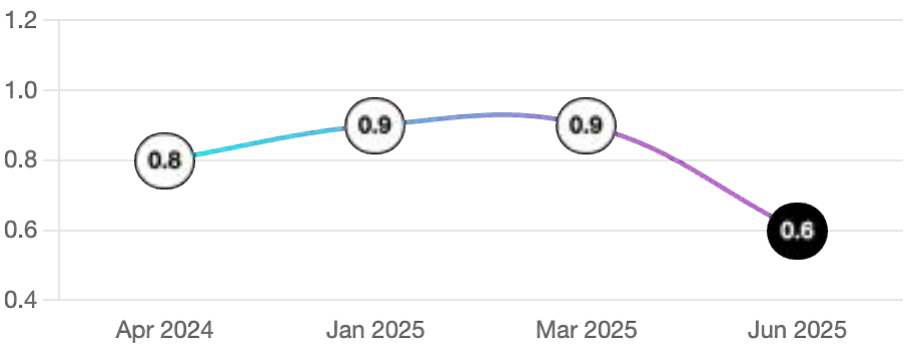
 OMICm Age



 Symphony Age



 Pace of Aging



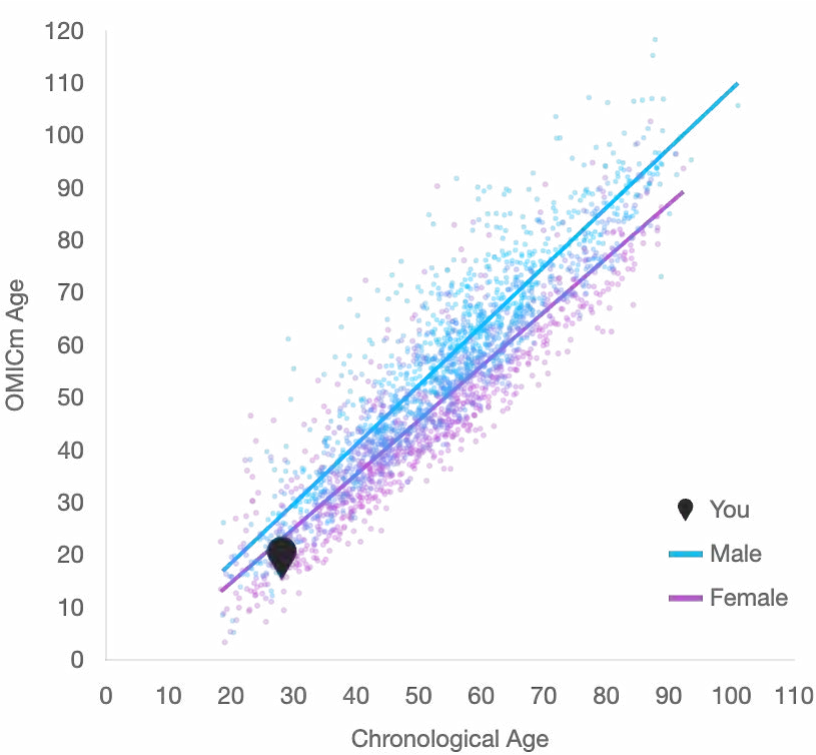
OMICm Age

16.0

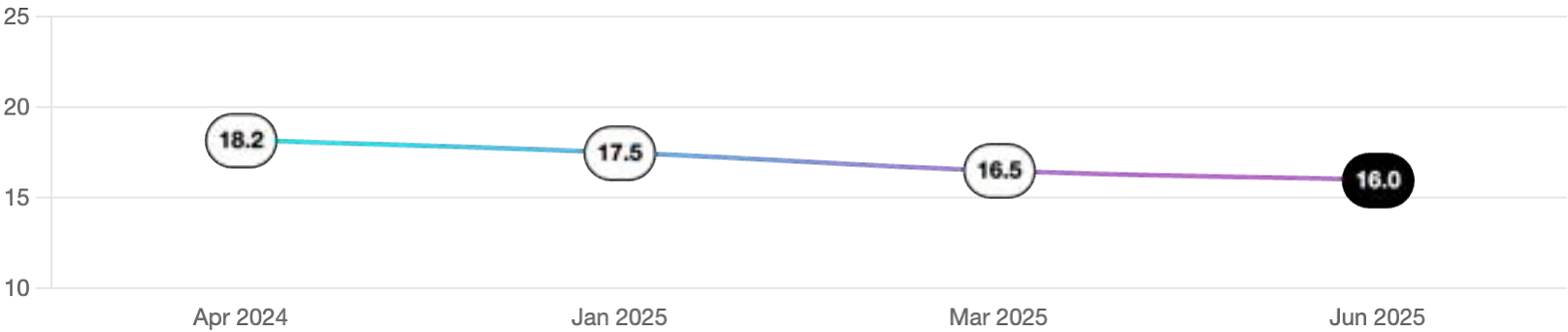
Younger ↘

18.4%

Your OMICm Age is **lower** than 81.6% of people of the same age and sex.



Results Over Time



DISCLAIMER: The population graph and percentile for OMICm Age are based on observed and validated data patterns from an equal distribution of Harvard research participants and TruDiagnostic clients to emulate a population of average health.

Most Actionable Epigenetic Biomarkers

Epigenetic Biomarker (EBs) are compared against a balanced reference dataset composed of individuals from both the Harvard and TruDiagnostic cohorts. We identify individuals of the same sex and a similar age (within ± 5 years) to create a personalized comparison group. Above the 80th percentile: Indicates your outcome is higher than 80% of individuals in the cohort. Below the 20th percentile: Indicates your outcome is lower than 80% of individuals in the cohort.

* Listed in order of impact on OMICm age. Find the rest of your Epigenetic Biomarkers at the end of the report

Serum Paraoxonase/arylesterase 1

Low

20

100

2.1%

Function

Serum Paraoxonase/Arylesterase 1 (PON1): An enzyme with antioxidant properties; linked to cardiovascular health.

Recommendations

• Increase selenium intake with foods like Brazil nuts, seafood, and whole foods

• Consider chokeberry extract and pomegranate

• Minimize intake of trans fat

Chokeberry extract

Brazil nuts

Seafood

Pomegranate

Vanillic Acid

High

0

80

81.6%

Function

Vanillactate: A product of gut microbial metabolism of phenolic compounds; involved in energy pathways.

Recommendations

• Manage blood pressure

• Reduce sodium intake

• Eat a heart-healthy diet

• Reduce stress

• Check heart function

Matrix-remodeling-associated protein 5

High

0

80

86.3%

Function

Matrix-Remodeling-Associated Protein 5: A protein involved in extracellular matrix remodeling and tissue repair.

Recommendations

• Reduce general systemic inflammation through an anti-inflammatory diet and an active lifestyle

• Reduce stress

Anti-inflammatory diet

Jane Doe

TruDiagnostic.com

03

This advanced approach dives into the age of **11 distinct organ systems**.

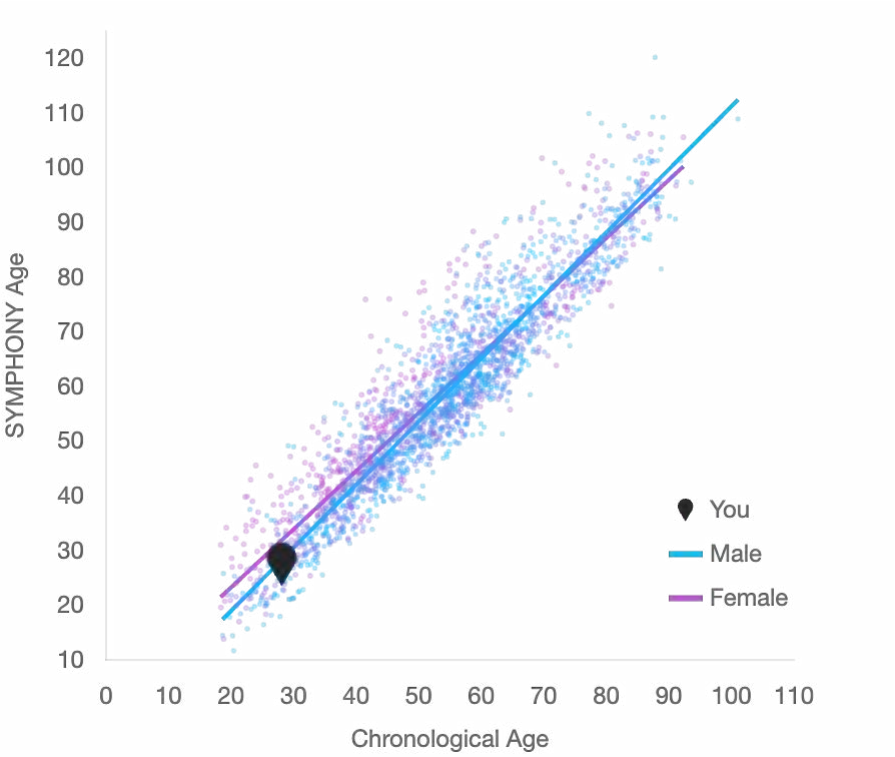
SYMPHONY Age

24.2

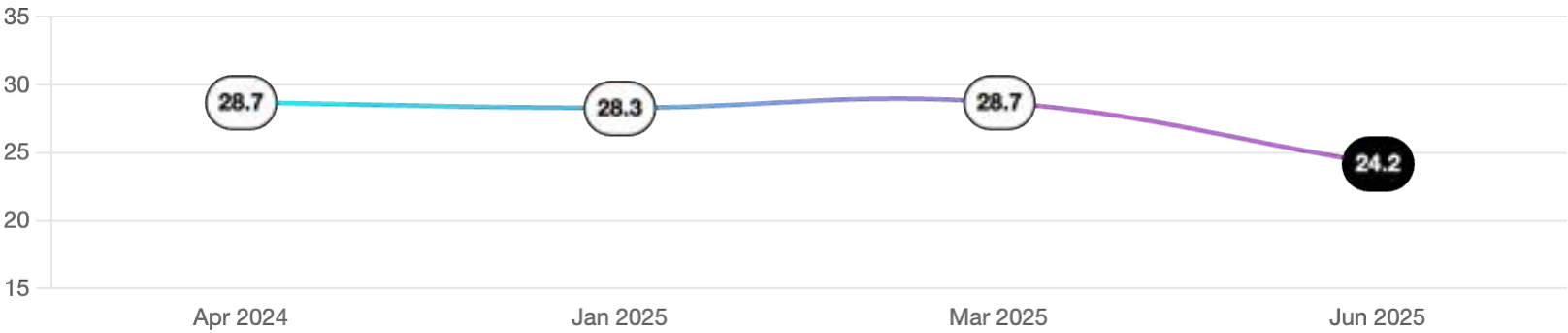
Younger ↘

12.8%

Your SYMPHONY Age is **lower** than 87.2% of people of the same age and sex.



Results Over Time



DISCLAIMER: The population graph and percentile for SYMPHONY Age are based on observed and validated data patterns from an equal distribution of Harvard research participants and TruDiagnostic clients to emulate a population of average health.

Compare the age of 11 distinct organ systems versus your chronological age



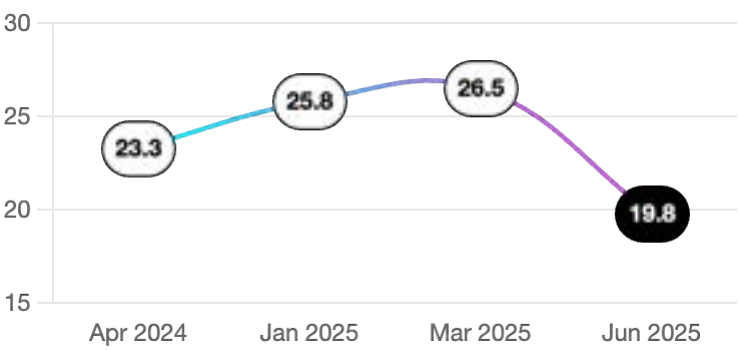
How was this clock created and designed?

Many clocks have used blood based biomarkers and their changes as we get older to predict OMICm age. For SYMPHONY Age, the researchers did this with biomarkers which were specific for each organ system. While previous clocks (like PhenoAge) did this with 9 blood markers, SYMPHONY Age incorporates 133 biomarkers for training to develop this clock. In addition to having a large and detailed number of clinical datapoints, this study is also one of the largest for clock development with approximately 8,000 participants. Together, this gives us an incredibly robust clock associated with organ specific clinical biomarkers which is highly predictive of aging outcomes.

Systems Related Biomarkers

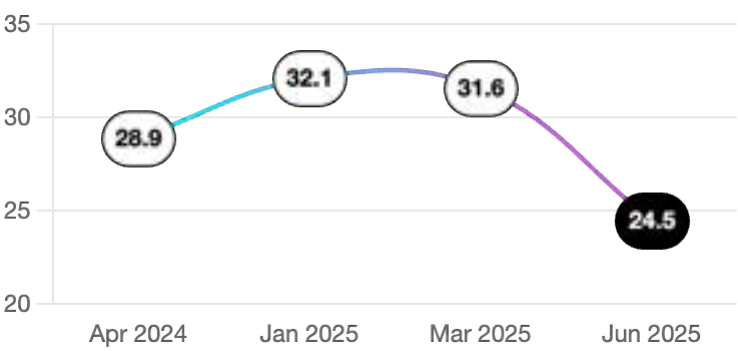
 Blood

Biomarkers: Ferritin, Hematocrit, Hemoglobin, Mean Corpuscular Hemoglobin, Mean Corpuscular Hemoglobin Conc, Mean Corpuscular Volume, Mean Platelet Volume, Platelet Distribution width, Platelet Count, Red Blood Cell Count, Red Cell Distribution Width



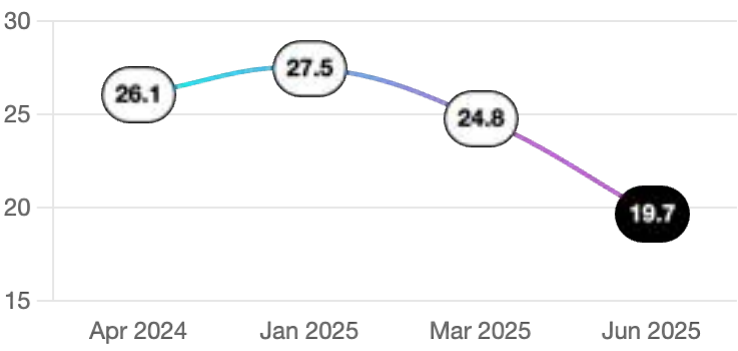
 Brain

Biomarkers: Homocysteine, BDNF (serum), Clusterin, Stroke, Total mental status summary score, Total cognition summary score, Immediate word recall, Delayed word recall, Total word recall summary score, Serial 7s



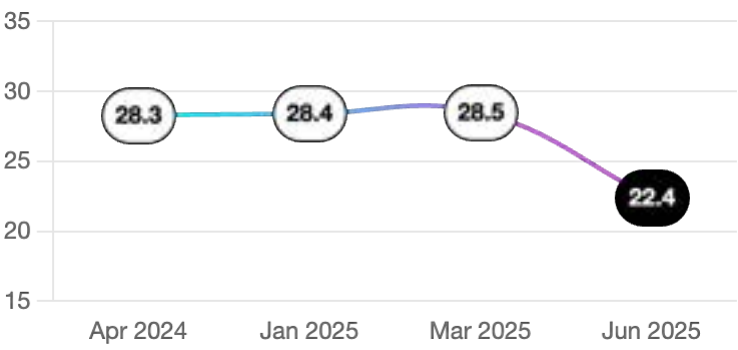
 Inflammation

Biomarkers: Ferritin, C-Reactive Protein, Transforming Growth Factor Beta, Interleukin 10, Interleukin 1 Receptor Antagonist, Interleukin 6, Tumor Necrosis Factor Receptor 1



 Heart

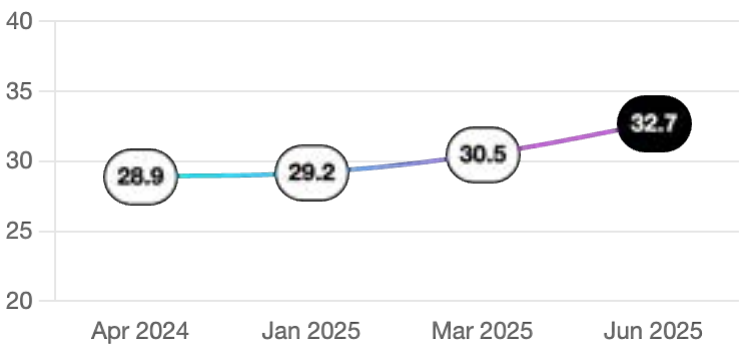
Biomarkers: Shortness of breath while awake, PCcomponents of Grimage, Previous High Blood Pressure, Previous Heart Attack, Previous Stroke, Homocysteine, BMI





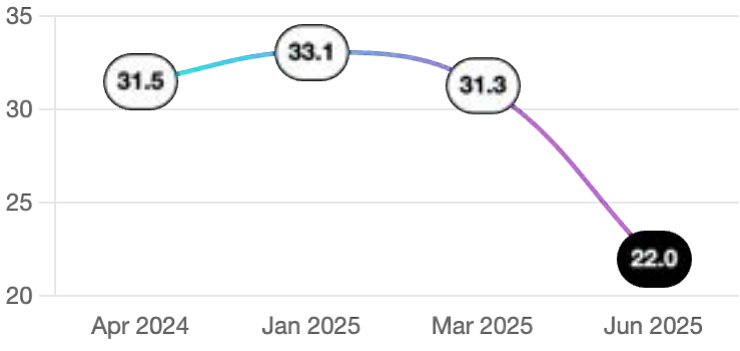
Hormone

Biomarkers: IGF-1, DHEAS



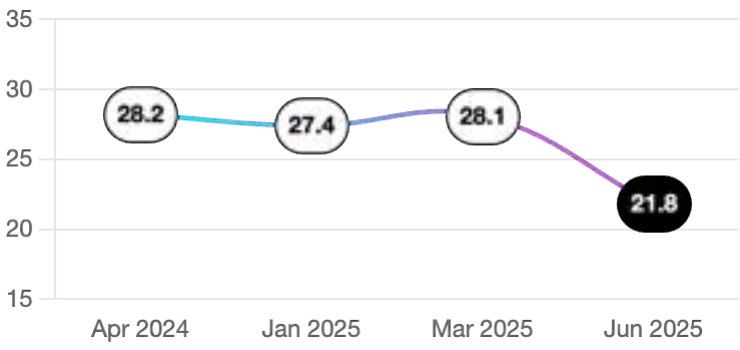
Immune

Biomarkers: Eosinophil Count, Lymphocyte Count, Monocyte Count, Neutrophil Count, Percent Basophils, Percent Eosinophils, Percent Lymphocytes, Percent Monocytes, White Blood Cell Count, Myeloid Dendritic cells (DC-M) Percentage, Plasmacytoid, Dendritic Cells (DC-P) Percentage, NK Cells: CD56HI Percentage, NK Cells: CD56LO Percentage, CD16- Monocytes Percentage, CD16+ Monocytes Percentage, B Cells Percentage, CD8+ T Cells: Central Memory (CM) Percentage, CD4+ T Cells: Central Memory (CM) Percentage, CD8+ T Cells Percentage, CD8+ T Cells: (TemRA) Percentage, CD4+ T Cells: (TemRA) Percentage, CD4+ T Cells Percentage, IgD+ Memory B Cells Percentage, IgD- Memory B Cells Percentage, CD8+ T Cells: Naïve Percentage, CD4+ T Cells: Naïve Percentage, T Cells Percentage, Naive B Cells Percentage, CD8+T Cells: Effector Memory (Tem) Percentage, CD4+ T Cells: Effector Memory (Tem) Percentage, Natural Killer (NK) Cells Percentage, Monocytes Percentage, Dendritic Cells Percentage



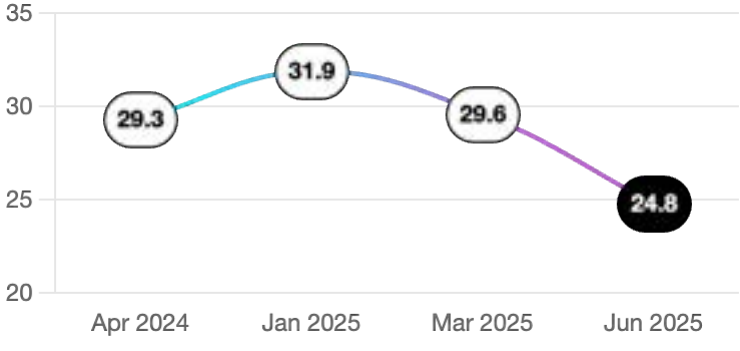
Kidney

Biomarkers: Albumin, Urea Nitrogen, Chloride, Bicarbonate, Creatinine, Cystatin C, Potassium, Sodium



Liver

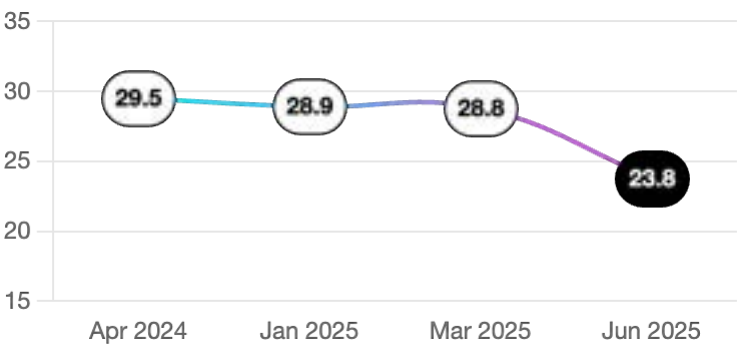
Biomarkers: Albumin, Alkaline Phosphatase, ALT, AST, Bilirubin, Total Protein





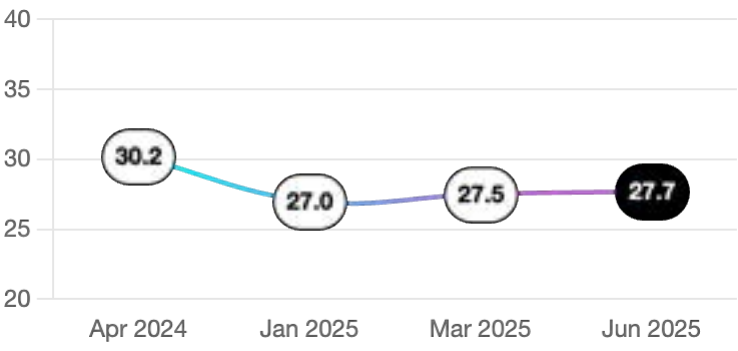
Metabolic

Biomarkers: PCSmoking-packyears, Previous Diabetes, C-Reactive Protein, Glucose-Fasting, HDL-Cholesterol, LDL-Cholesterol, Triglycerides, Interleukin-6, BMI, Waist circumference



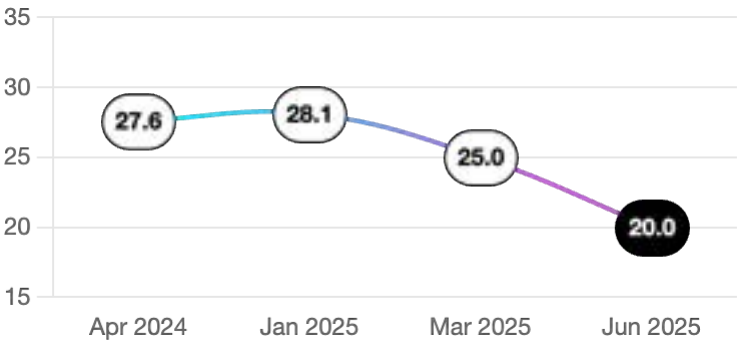
Lung

Biomarkers: Peak expiratory flow, bicarbonate, chronic lung disease, shortness of breath while awake, persistent wheezing, cough, or bringing up phlegm, PCSmoking-packyears



MusculoSkeletal

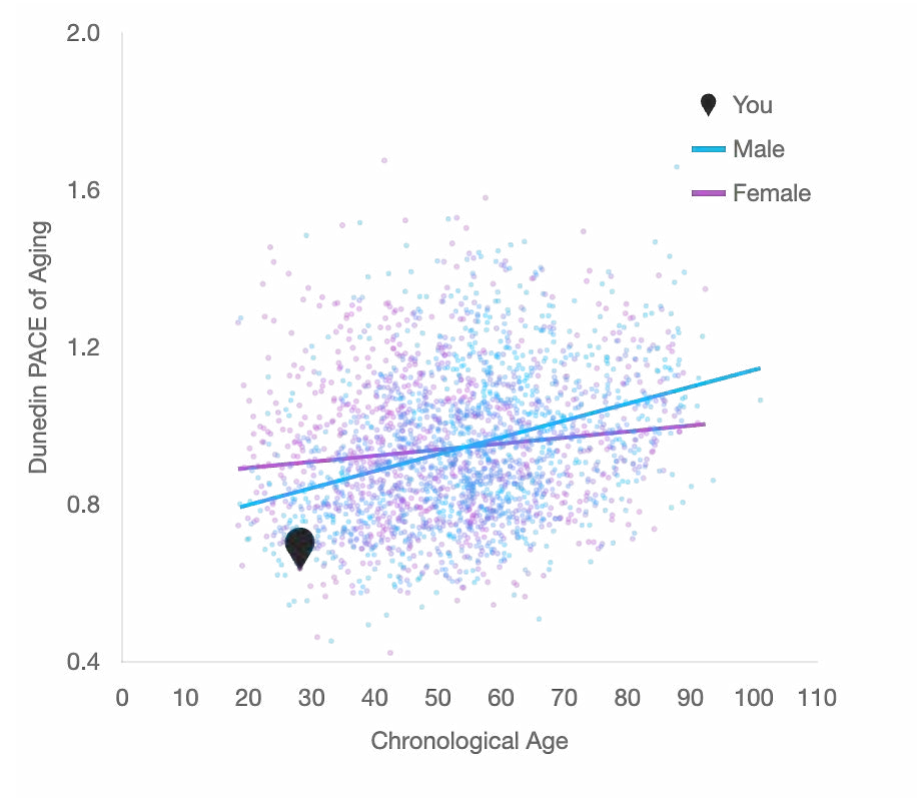
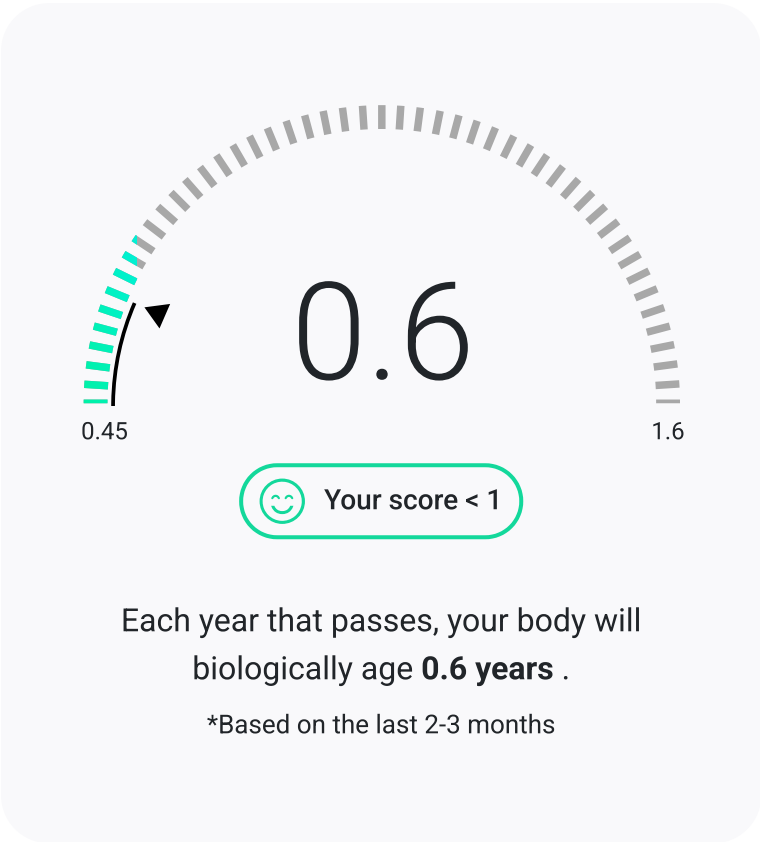
Biomarkers: Vitamin D3, Dehydroepiandrosterone sulphate, IGF-1, Arthritis, Height, Weight, BMI, some diff-mobility, hand grip strength maximum measurement, semi tandem balance test time, timed walk test time, hand grip strength-left hand hand grip strength-right hand, had back problems, some diff-stoop/kneel/crouch, diff-stoop/kneel/crouch, diff-walk one block, diff-walk sev blocks, some diff-walk one block, some diff-walk sev blocks, diff-climb sev flt stair, diff-climb one flt stair, some diff-clmb sev flt str, some diff-clmb 1 flt stair, diff-get up fr chair, some diff-get up fr chair, diff-reach/extnd arms up, some diff-rch/xtnd arms up, diff-lift/carry 10lbs, some diff-lift/carry 10lbs, side-by-side balance test time, full tandem balance test time, Sum of 7 different functional tests, Combination of all balance scores



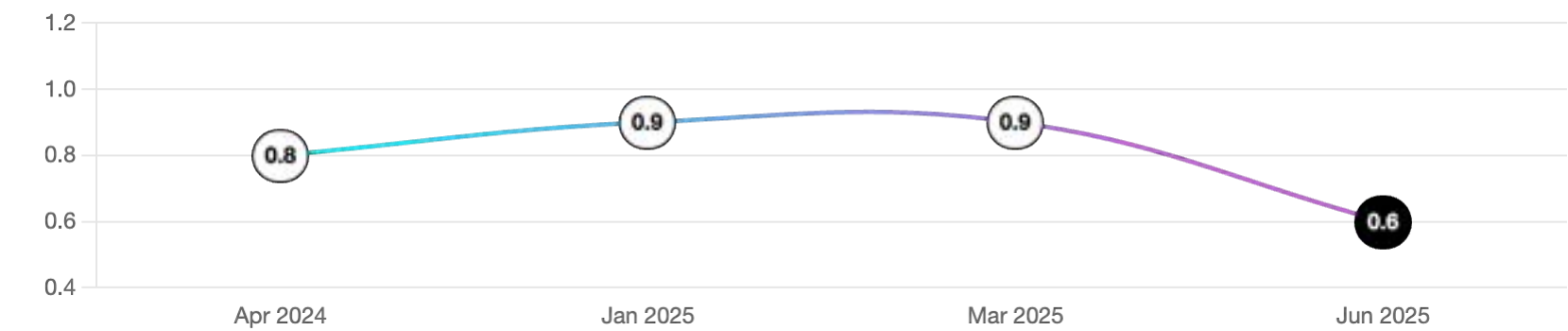
DunedinPACE of Aging

 Chronological Age: 28.2

Your Rate of Aging will change based on your lifestyle interventions. Be sure to retest every 3 months to track your progress.



Results Over Time



DISCLAIMER: The population graph for DunedinPACE of Aging is based on observed and validated data patterns from an equal distribution of Harvard research participants and TruDiagnostic clients to emulate a population of average health.

Immune Health



CD4/CD8T cell ratio is incredibly informative on disease. A low or inverted CD4/CD8 ratio is an immune risk phenotype and is associated with altered immune function, immune senescence, and chronic inflammation.



The Neutrophil-to-Lymphocyte Ratio (NLR) is obtained by dividing the number of neutrophils by the number of lymphocytes. During physiological stress, neutrophil count increases while lymphocyte count decreases. Physiological stress, driven by illness, inflammation, or psychological stress, can elevate NLR. Therefore, NLR elevation is not exclusive to infection or inflammation but can result from any form of physiological stress, including everyday stress and poor recovery or stress management.

Telomere Length

 Chronological Age: 28.2

Shorter telomere length and low telomerase activity are correlated with several chronic preventable diseases.

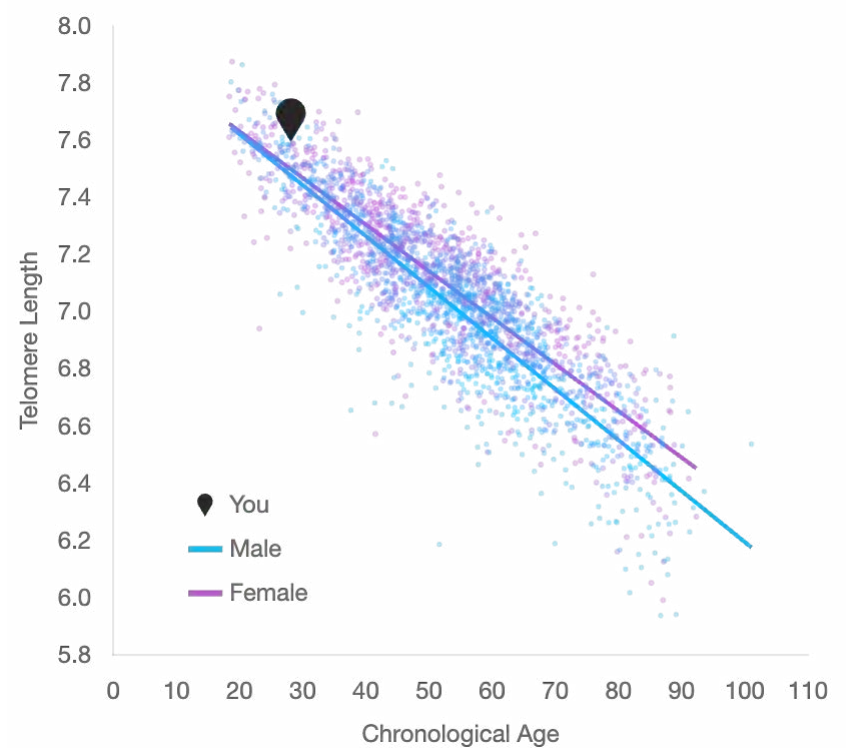
Telomere Biological Age

19.5

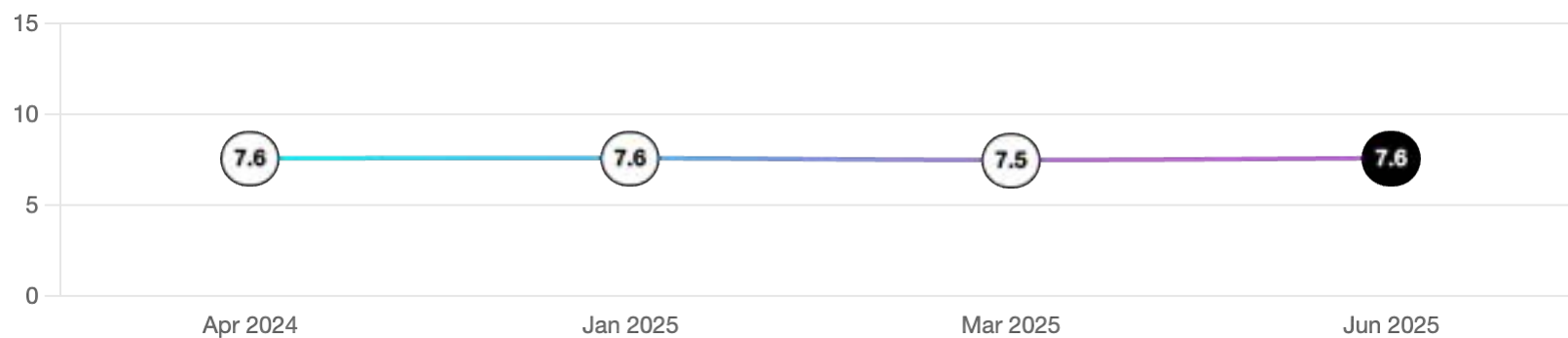
Younger ↘

Telomere Length

7.6



Results Over Time



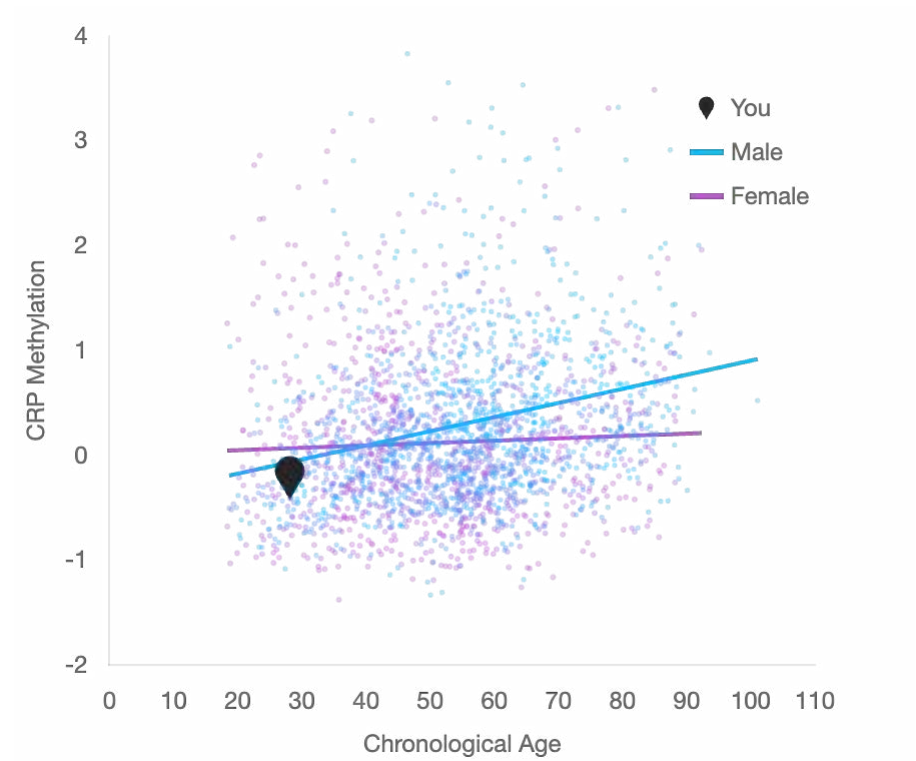
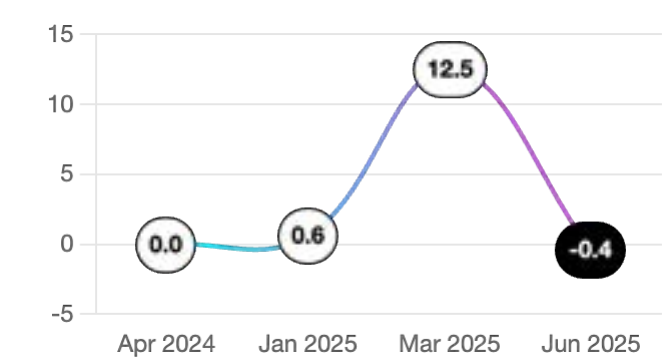
DISCLAIMER: Telomere length is mostly determined based on predetermined genetic function. The population graph is based on observed and validated data patterns from an equal distribution of Harvard research participants and TruDiagnostic clients to emulate a population of average health.

Inflammation

CRP
36.2% 😊

Your CRP methylation level is lower than 63.8% of the population at your same age and sex.

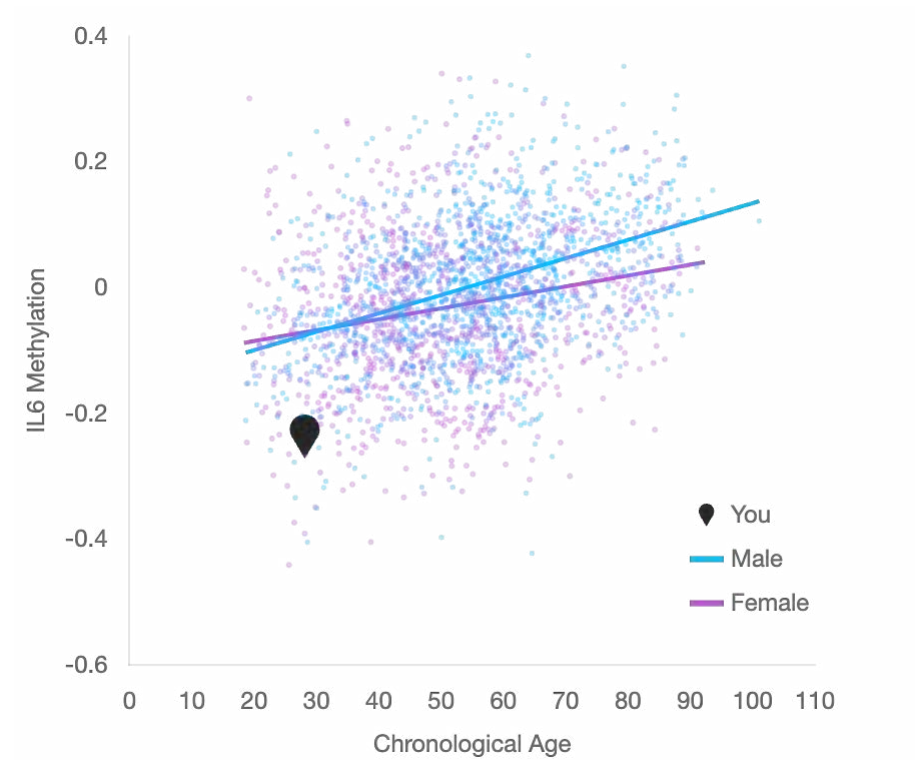
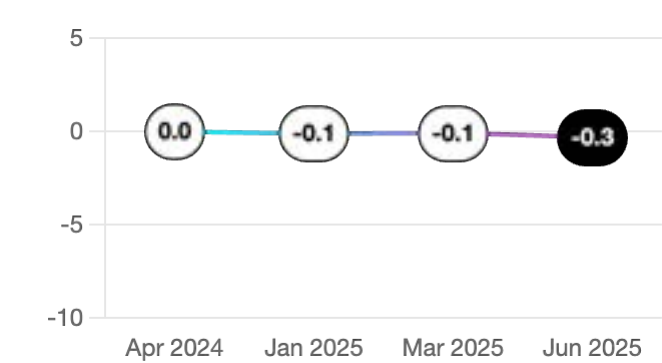
CRP is produced by the liver in response to acute inflammation. DNAm CRP has an inverse relationship with cognitive functions such as memory, speed, and visuospatial functions.



IL-6
5.3% 😊

Your IL-6 methylation level is lower than 94.7% of the population at your same age and sex.

IL-6 is a widely used marker of inflammation and circulating levels of the cytokine typically rise in older age. DNAm IL-6 is positively associated with BMI, self-reported smoking status, and alcohol intake.



DISCLAIMER: The population graph and percentile are based on observed and validated data patterns from an equal distribution of Harvard research participants and TruDiagnostic clients to emulate a population of average health.

Tells you how old you are according to your physical fitness and functionality.

For every one year older OMICm FitAge is, there is an average 0.29 decrease in relative grip strength and 0.32 increase in BMI. OMICm FitAge has estimated that **high-fit individuals** (classified through VO2max) have a 1.5 to 2.0 **younger** OMICm age compared to low/medium fit individuals in females and males, respectively.

Younger OMICm FitAge was associated with better memory test performance, emphasizing the beneficial role of physical exercise on cognitive health.

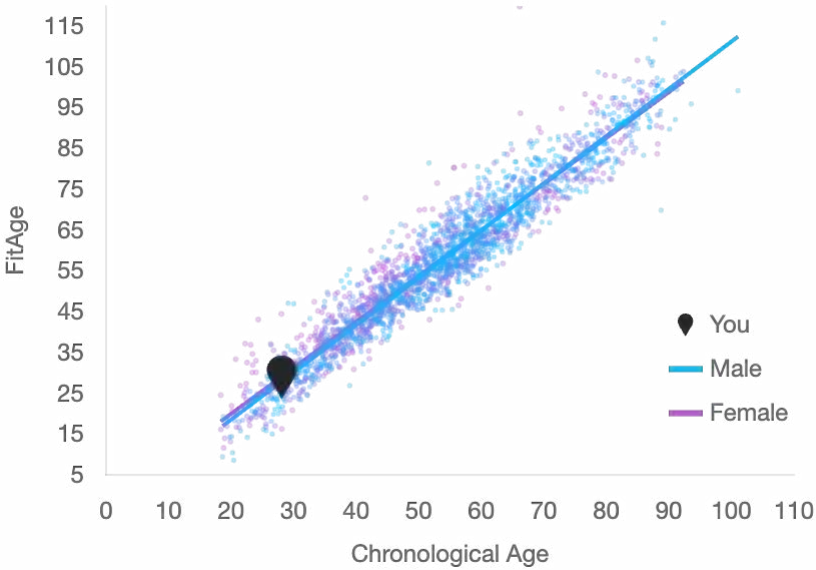
Fit Age

24.6

Younger ↘

-3.6 yr 😊

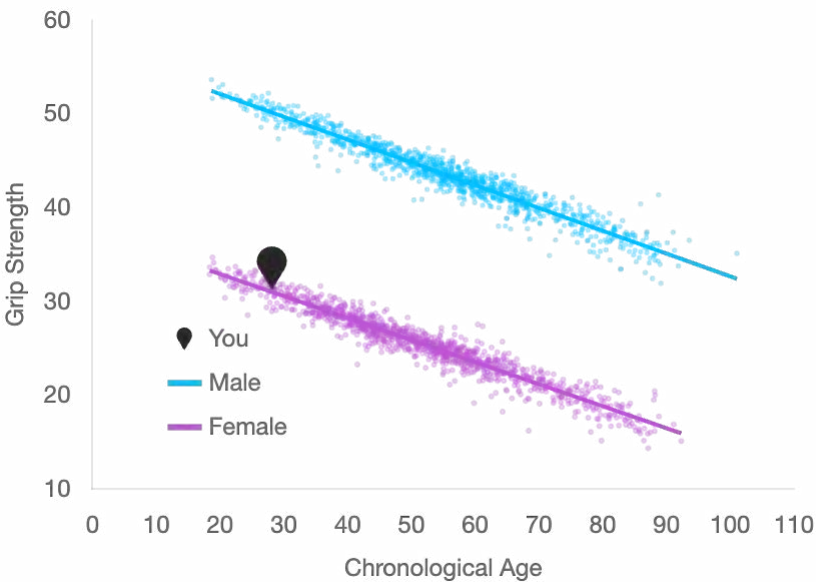
Your FitAge is lower by 3.6 years compared to people your same age and sex.



Grip Strength Percentile

74.8% 😊

Your Grip Strength is higher than 74.8% of people of the same age and sex.



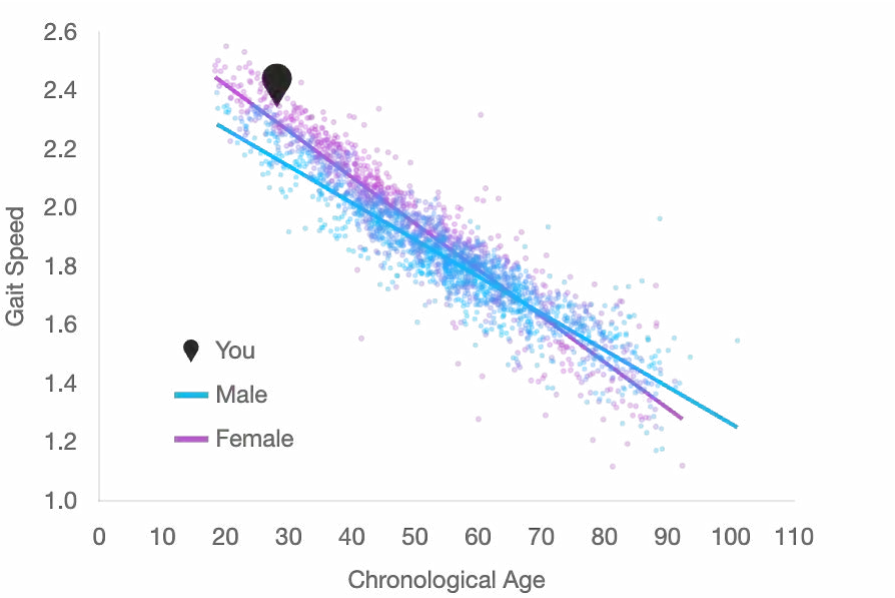
DISCLAIMER: The population graph and percentile are based on observed and validated data patterns from an equal distribution of Harvard research participants and TruDiagnostic clients to emulate a population of average health. These are our least correlated clocks but can be used for most to gamify fitness.

Gait Speed Percentile

76.7% 😊

Your Gait Speed is higher than 76.7% of people of the same age and sex.

Gait speed, also known as walking speed, is measured in meters per second.

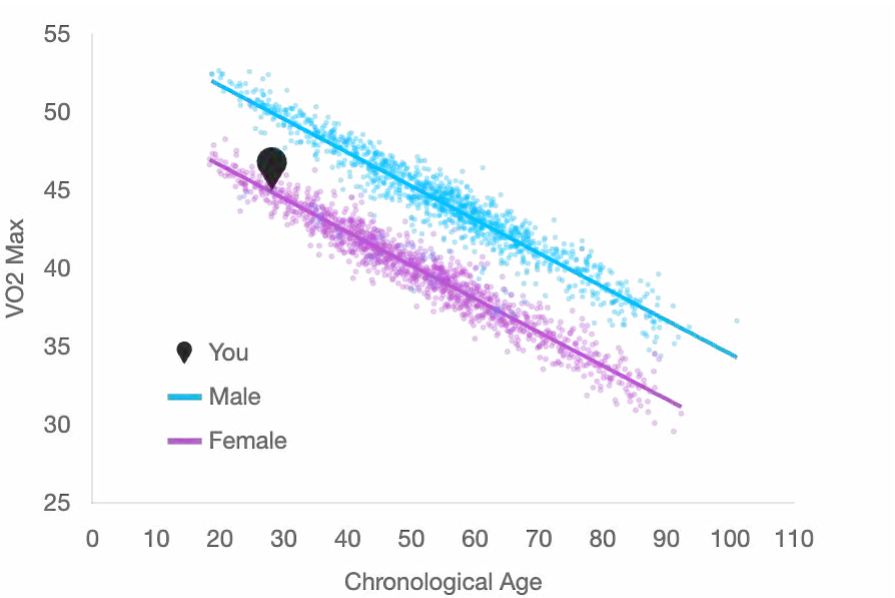


VO2 Max Percentile

67.8% 😊

Your VO2 Max is higher than 67.8% of people of the same age and sex.

Maximal oxygen uptake, or VO2max, is a measure of cardiovascular health and aerobic endurance.

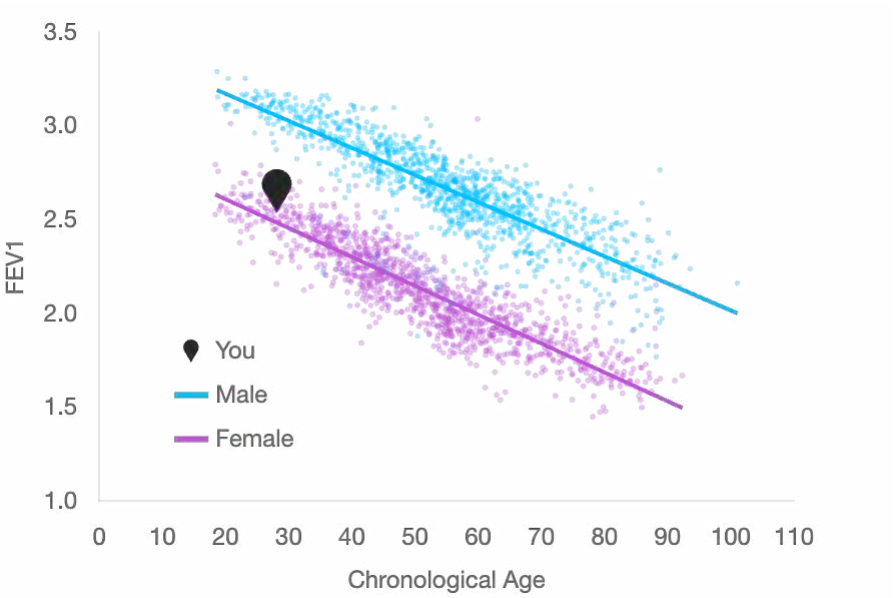


FEV1 Percentile

70.7% 😊

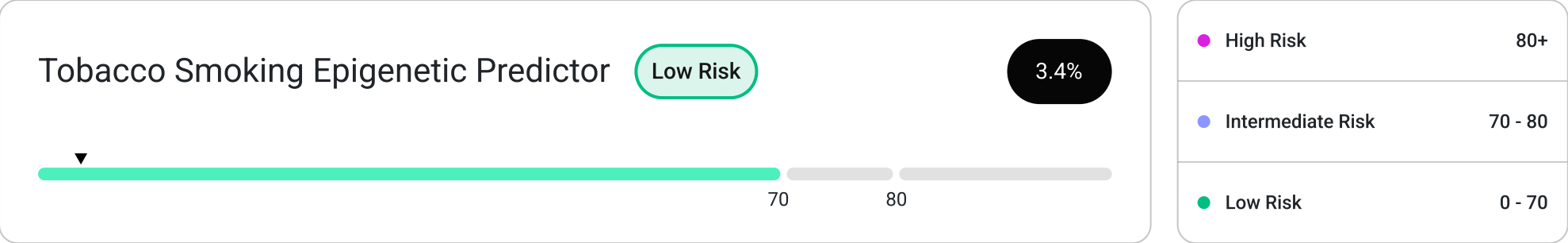
Your FEV1 is higher than 70.7% of people of the same age and sex.

Forced expiratory volume, also known as FEV1, measures lung function by determining the amount of air forced from the lungs in one second.

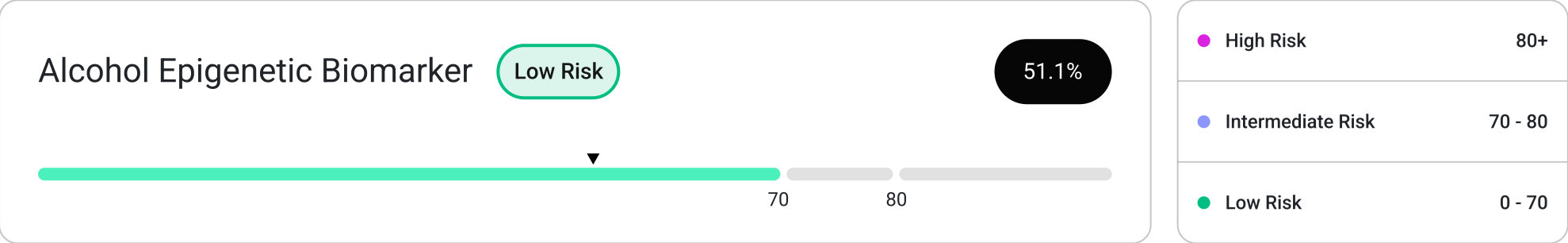


DISCLAIMER: The population graph and percentile are based on observed and validated data patterns from an equal distribution of Harvard research participants and TruDiagnostic clients to emulate a population of average health.

Relative Smoking Risk



Relative Alcohol Risk



Additional Epigenetic Biomarkers

Albumin Normal 20 100 28.9%	Function Albumin: A protein in the blood that helps maintain oncotic pressure and transport substances. Recommendations - If applicable, consume high-proten foods - Diversify protein sources - Consider vitamin D and omega-3-rich foods or supplements. - Manage liver and kidney health - Limit nephrotoxic medications Vitamin D Omega-3 Fatty Acids Lean meats Poultry Fish Eggs Dairy Legumes Nuts
Hemoglobin Normal 20 100 62.4%	Function Hemoglobin: A protein in red blood cells that carries oxygen; critical for evaluating oxygen transport and anemia. Recommendations - Correct nutrient deficiencies, especially folate, iron, B12, and vitamin C. - Consider EPO in the setting of CKD - Manage chronic conditions - Stay active and hydrated Vitamin B12 Folate Iron Vitamin C Leafy green vegetables Citrus fruits Legumes Eggs
HbA1c Normal 0 80 13.9%	Function HbA1c: Glycated hemoglobin; indicates average blood sugar levels over the past 2–3 months. Recommendations - Consume low-glycemic balanced meals - Exercise regularly - Pursue weight loss if applicable - Reduce sugar intake - Manage stress - Consider medications if advised by your physician - Consider supplements like ALA, berberine, or dihydroberberine Alpha Lipoic Acid Berberine Dihydroberberine Lean proteins Healthy fats Fiber-rich foods
Hematocrit Normal 20 100 46.8%	Function Hematocrit: Percentage of red blood cells in blood; used to assess anemia and hydration. Recommendations - Correct nutrient deficiencies, especially folate, iron, B12, and vitamin C - Treat illness - Stay active and hydrated Vitamin B12 Folate Iron Vitamin C Leafy green vegetables Citrus fruits Legumes Eggs

Additional Epigenetic Biomarkers

Blood Urea Nitrogen

Normal

080

41.9%

Function

Blood Urea Nitrogen (BUN): Measures urea levels in the blood, indicating kidney function and protein metabolism.

Recommendations

Hydrate regularly

If applicable, moderate protein intake

Manage any kidney or liver disease

Avoid nephrotoxic drugs

Alkaline Phosphatase

Normal

080

1.0%

Function

Alkaline Phosphatase: An enzyme found in the liver, bones, and other tissues; elevated levels indicate liver or bone issues.

Recommendations

Correct Vitamin D deficiency

Treat liver or bone disease if applicable

Eat a diet low in saturated fats

Exercise regularly

Avoid alcohol and toxins

Vitamin D

Insulin-like Growth Factor-Binding Protein 2

Normal

080

46.3%

Function

Insulin-Like Growth Factor-Binding Protein 2 (IGFBP2): Regulates insulin-like growth factor activity; linked to metabolism and aging.

Recommendations

Regularly practice calorie restriction under healthcare provider guidance

Engage in aerobic and resistance exercise to improve insulin sensitivity

Consume balanced meals

Manage stress

Reduce excessive protein intake

Improve sleep to support growth hormone function

Carboxypeptidase B2

Normal

20100

51.1%

Function

Carboxypeptidase B2: An enzyme involved in clot dissolution and complement regulation.

Recommendations

Consume adequate protein

Correct any nutrient deficiencies, especially vitamin K and omega-3

Control inflammation through an anti-inflammatory diet and regular exercise

Omega-3 Fatty Acid

Vitamin K

Additional Epigenetic Biomarkers

Ribonuclease pancreatic

Normal

080

54.3%

Function

Ribonuclease Pancreatic: An enzyme that degrades RNA; linked to digestive and cellular processes.

Recommendations

Consider an anti-inflammatory diet

Regulate blood sugar levels

Manage stress

Maintain an active lifestyle

Omega-3 Fatty Acid

Anti-inflammatory diet

Inter-alpha-trypsin Inhibitor Heavy Chain H3

Normal

080

21.3%

Function

Inter-Alpha-Trypsin Inhibitor Heavy Chain H3: A protein involved in inflammation and tissue repair.

Recommendations

Identify and control sources of inflammation, especially insulin resistance, gut microbiome imbalances, dietary factors, lipids, toxins, autoimmunity, and environmental exposures

Maintain an active lifestyle

Consider an anti-inflammatory diet

Anti-inflammatory diet

Fasting Glucose

Normal

080

32.9%

Function

Glucose: Blood sugar level; essential for assessing metabolic health and diagnosing diabetes.

Recommendations

Control carbohydrates intake when applicable

Stay active

Manage weight

Avoid sugar

Manage stress

Consider medications if advised by your physician

Consider supplements like ALA, berberine, or dihydroberberine

Alpha Lipoic Acid

Berberine

Dihydroberberine

Lean proteins

Healthy fats

Fiber-rich foods

Ribitol

Normal

080

49.4%

Function

Ribitol: A sugar alcohol; involved in pentose phosphate and metabolic pathways.

Recommendations

Limit sugar and high glycemic food intake

Consider monitoring blood sugar

Lean protein

Low fat dairy

Additional Epigenetic Biomarkers

Creatinine

Normal

080

48.6%

Function

Creatinine: A byproduct of muscle metabolism; used to evaluate kidney function.

Recommendations

Hydrate regularly

If applicable, reduce red meat intake

Control diabetes and hypertension

Avoid nephrotoxic drugs

Note that creatine can affect this level

Phenylacetylglutamine

Normal

080

31.8%

Function

Phenylacetylglutamine: A gut microbiome-derived metabolite of phenylalanine; linked to kidney function.

Recommendations

Balance protein intake

Limit foods high in phenylalanine (e.g, processed foods, dairy, meat, and some grains)

Stay hydrated

Monitor liver and kidney function

Consider prebiotics or probiotics for gut health

Prebiotics

Probiotics

Uridine

Normal

20100

93.2%

Function

Uridine: A nucleoside involved in RNA synthesis and energy metabolism.

Recommendations

Incorporate uridine-rich foods like tomatoes, broccoli, and mushrooms, which are synergistic with choline and DHA

Uridine

Choline

DHA

Tomatoes

Broccoli

Mushrooms

Eggs

Fatty fish

1-margaroyl-glycerophospholipid(GPE)(17:0)*

Normal

080

42.1%

Function

1-Margaroyl-Glycerophospholipid (GPE) (17:0): A glycerophospholipid; essential for cell membrane stability.

Recommendations

If applicable, reduce saturated fat intake

Increase omega-3 intake

Consider anti-inflammatory agents like curcumin or green tea extract

Omega-3 Fatty Acid

Curcumin

Green tea extract

Green tea

Jane Doe

TruDiagnostic.com

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Additional Epigenetic Biomarkers

4-Methoxyphenol Sulfate Normal	080 66.7%
Function 4-Methoxyphenol Sulfate: A sulfated metabolite of phenolic compounds; reflects detoxification processes.	Recommendations Avoid woodsmoke exposure and dark-aged beer Avoid synthetic fragrances
N-acetyl-isoputreanine Normal	080 69.3%
Function N-Acetyl-Isoputreanine: A metabolite of polyamine biosynthesis; associated with cellular growth and repair.	Recommendations Consider NAC supplementation NAC
Gluconate Normal	080 24.4%
Function Gluconate: A metabolite of glucose; involved in carbohydrate metabolism and energy production.	Recommendations Cut added sugar, added fat, and processed foods Exercise regularly Consider ALA, berberine, or dihydroberberine Limit wine Alpha Lipoic Acid Berberine Dihydroberberine
Carotene Diol Normal	20100 62.1%
Function Carotene Diol: A carotenoid metabolite; an antioxidant linked to vitamin A activity. Important for eye and brain health.	Recommendations Consume more carotenoid-rich foods like carrots, kale, and spinach Carrots Kale Spinach

Additional Epigenetic Biomarkers

4-hydroxyphenylacetylglutamine Normal 080 77.8%	Function 4-Hydroxyphenylacetylglutamine: A gut microbial metabolite of tyrosine; linked to gut health and kidney function.	Recommendations • Manage blood pressure • If applicable, reduce protein intake • Increase fiber and fermented foods • Consider prebiotics or probiotics • Stay hydrated • Protect kidney health Prebiotics Probiotics Kefir Yogurt Sauerkraut Fiber-rich foods
Androsterone Sulfate Normal 20100 89.9%	Function Androsterone Sulfate: A steroid hormone metabolite downstream of testosterone; reflects androgen activity and metabolism.	Recommendations • Correct any nutrient deficiencies, especially zinc, magnesium, vitamin D, and omega-3 • Optimize sleep • Manage stress • Consider hormone therapy if needed • Maintain an active lifestyle Zinc Magnesium Vitamin D Omega-3 DHEA
3-Ureidopropionate Normal 080 41.7%	Function 3-Ureidopropionate: A product of pyrimidine metabolism; involved in nitrogen recycling.	Recommendations • If applicable, reduce excessive protein intake, especially those rich in pyrimidines like organ meats • Stay hydrated • Monitor kidney and liver health
Bone Morphogenetic protein 1 Normal 20100 54.3%	Function Bone Morphogenetic Protein 1 (BMP1): A protein involved in bone formation and extracellular matrix remodeling.	Recommendations • Consume calcium-rich and vitamin D-rich foods • Consider calcium or vitamin D supplementation • Increase weight-bearing exercise • Ensure adequate protein intake Calcium Vitamin D Green leafy vegetables Nuts Dairy Fatty fish

Additional Epigenetic Biomarkers

Versican core protein Normal 080 47.3%	Function Versican Core Protein: A proteoglycan in the extracellular matrix; involved in tissue remodeling and inflammation. Recommendations - Avoid being underweight - Increase moderate-intensity exercise
Cystine Normal 080 50%	Function Cystine: A disulfide form of cysteine; indicates oxidative stress and protein turnover. Recommendations - Avoid excessive methionine-rich protein sources like eggs, dairy, certain nuts, and seeds - Stay hydrated - Increase vitamins B6, B9, and B12 to support homocysteine metabolism Vitamin B6 Vitamin B9 Vitamin B12
Mimecan Normal 080 34.7%	Function Mimecan (Osteoglycin): A small leucine-rich proteoglycan; involved in bone mineralization and cardiovascular health. Recommendations - Consider an anti-inflammatory diet - Manage stress - Maintain an active lifestyle - If applicable, manage underlying cardiovascular or fibrotic conditions - Monitor blood pressure and cholesterol Omega-3 Fatty Acid
Histone H2B type 1-K Normal 080 25.5%	Function Histone H2B Type 1-K: A histone protein involved in chromatin structure and epigenetic regulation. Recommendations - Limit UV exposure - Increase antioxidant intake - Avoid smoke exposure - Manage stress - Maintain an active lifestyle

Additional Epigenetic Biomarkers

1-Stearoyl-2-adrenoyl-GPC (18:0/22:4)*

Normal

20

100

23.9%

Function

A glycerophosphocholine (GPC) lipid, this compound supports membrane integrity, brain function, and lipid metabolism, essential for longevity. Low levels may impair neuroprotection, increase oxidative stress, and accelerate age-related decline.

Recommendations

- If applicable, correct omega-3 deficiency
- Increase antioxidants
- Limit alcohol

Omega-3 Fatty Acid

Flaxseeds

Walnuts

Fatty fish

Red Blood Cell Distribution Width

Normal

0

80

37.9%

Function

Red Blood Cell Width (RDW): Measures the variation in red blood cell size.

Recommendations

- Correct nutrient deficiencies, especially B12, folate, iron, and vitamin C
- Manage chronic illness and inflammation
- Consider omega-3s
- Avoid alcohol and smoking

Vitamin B12

Folate

Iron

Vitamin C

Omega-3 Fatty Acids

Red meat

Beans

Fortified cereals

Dairy

Meat

Leafy green vegetables

Citrus fruits

Tomatoes

Peppers

Jane Doe

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