

YOUR RESULTS



Summary Report

AN OVERVIEW BY TRUDIAGNOSTIC

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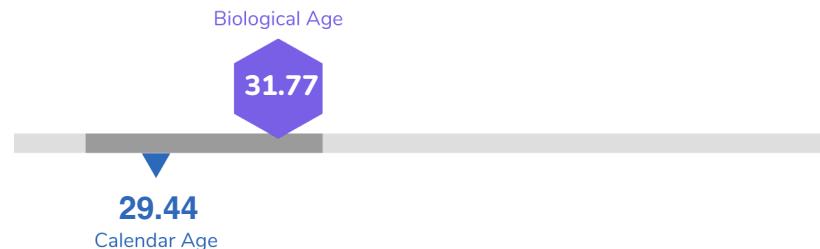
OMICm Age

*Developed with Harvard**

DISCLAIMER: The population graph and percentile for OMICmAge are based on observed and validated data patterns from thousands of research participants involved in our Harvard University study.



Your OMICm Age is
HIGHER THAN
your calendar age by 2.33 years.

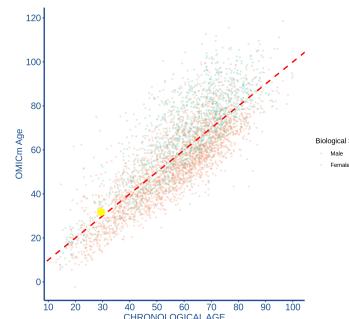


POPULATION COMPARISON

Your OMICm Age is in the 65th percentile.



This means that your OMICm Age is higher than 65% of the population at your same chronological age .



RESULTS OVER TIME



Your Risk of Disease

Aging has been scientifically proven to be the number one risk factor for major chronic diseases worldwide. Accelerated aging (having an older biological age than your calendar age) increases your risk of disease with each year, and having a younger biological age decreases these risks.

Your OMICm Biological Age can represent an increase or decrease risk of death, cancer, heart disease, stroke, type 2 diabetes, COPD, and depression.

DISCLAIMER: The following, personalized risk scores are calculated based on observed and validated data patterns from thousands of research participants in our Harvard University study.

DEATH

23.81%
Disease Risk

At your OMICm Age of **32**, you have a **23.81% higher** risk of death compared to people of your same chronological age.

Reducing your OMICm Age by 1 year would result in reducing your relative risk by **10.99%**.

COPD

5.38%
Disease Risk

At your OMICm Age of **32**, you have a **5.38% higher** risk of COPD compared to people of your same chronological age.

Reducing your OMICm Age by 1 year would result in reducing your relative risk by **2.38%**.

CANCER

7.19%
Disease Risk

At your OMICm Age of **32**, you have a **7.19% higher** risk of cancer compared to people of your same chronological age.

Reducing your OMICm Age by 1 year would result in reducing your relative risk by **3.19%**.

DEPRESSION

5.38%
Disease Risk

At your OMICm Age of **32**, you have a **5.38% higher** risk of depression compared to people of your same chronological age.

Reducing your OMICm Age by 1 year would result in reducing your relative risk by **2.38%**.

STROKE

10.05%
Disease Risk

At your OMICm Age of **32**, you have a **10.05% higher** risk of stroke compared to people of your same chronological age.

Reducing your OMICm Age by 1 year would result in reducing your relative risk by **4.49%**.

HEART DISEASE

12.03%
Disease Risk

At your OMICm Age of **32**, you have a **12.03% higher** risk of heart disease compared to people of your same chronological age.

Reducing your OMICm Age by 1 year would result in reducing your relative risk by **5.41%**.

TYPE 2 DIABETES

10.56%
Disease Risk

At your OMICm Age of **32**, you have a **10.56% higher** risk of type 2 diabetes compared to people of your same chronological age.

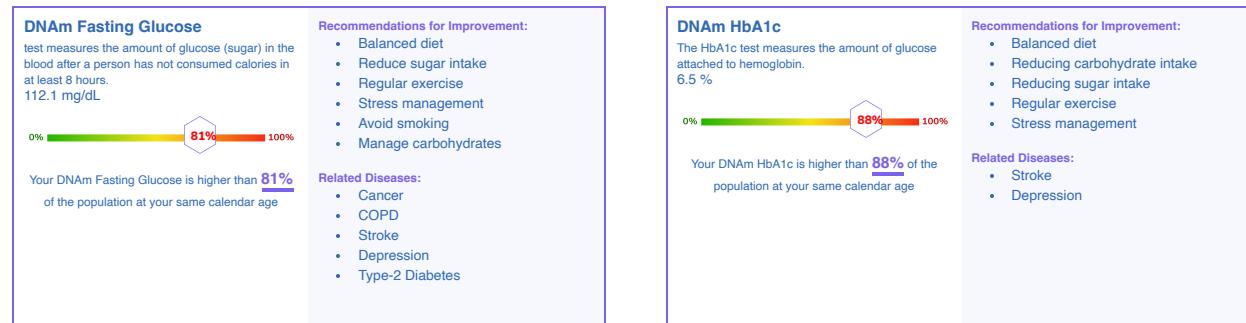
Reducing your OMICm Age by 1 year would result in reducing your relative risk by **4.73%**.

Your Most Actionable EBPs

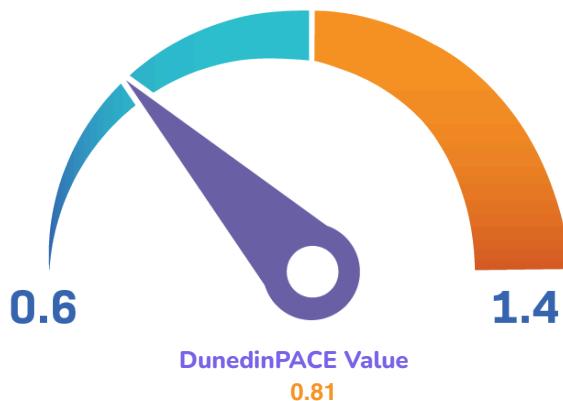
*Listed in order of impact on biological age**

These are the Epigenetic Biomarker Proxies (EBPs) in which your DNAm predicted you were in the top 20% of the population for an EBP we would want to be low for ideal aging or in the bottom 20% of the population for an EBP we would want to be high for ideal aging. As each of these are included as features in OMICm Age, if you were to improve these features, we would expect you would improve your age.

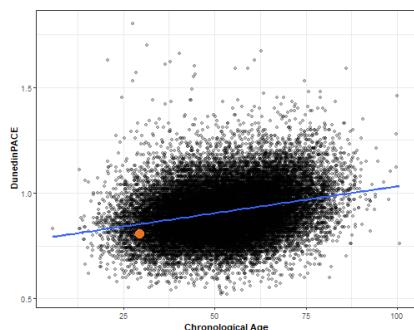
DISCLAIMER: Related diseases associated with an EBP are **NOT** a diagnosis. These are diseases that are correlated to that EBP. The percentiles are based on observed and validated data patterns from thousands of research participants involved in our TruDiagnostic cohort.



DunedinPACE of Aging



Population



Changes Over Time



Your DunedinPACE is higher than 32.82% of the population at your same calendar age.

ALGORITHM

PATIENT DATA

MORBIDITY AND MORTALITY ASSOCIATIONS

RISK STATEMENT

DunedinPACE

0.81
Biological years per year

All-Cause Mortality
(Belsky et al., 2020)

If you are aging above a rate of 1.00, you would increase risk of death by 56% over the next 7 years.

Chronic Disease
(Belsky et al., 2020)

If you are aging above a rate of 1.00, you would increase risk of chronic disease diagnosis by 54% over the next 7 years.



Immune Health

IMMUNE CELL TYPE	REFERENCE MEAN	95% CONFIDENCE INTERVAL RANGE	YOUR PERCENTAGE
Naïve CD4T	7.273%	7.196%-7.35%	10.92%
Memory CD4T	5.212%	5.14%-5.284%	4.18%
Memory CD8T	6.605	6.519%-6.691%	2.08%
Naïve CD8T	1.125%	1.09%-1.16%	6.88%
Basophils	1.041%	1.026%-1.056%	0.82%
B Memory	1.737%	1.689%-1.785%	0.94%
Naïve B	2.259%	2.207%-2.311%	3.72%
Regulatory T	3.506%	0.604%-6.408%	2.68%
Eosinophils	0.400%	0.376%-0.424%	0.00%
Natural Killer	3.406%	3.353%-3.459%	4.34%
Neutrophils	62.93%	62.899%-62.953%	57.12%
Monocyte	4.510%	4.453%-4.567%	6.34%



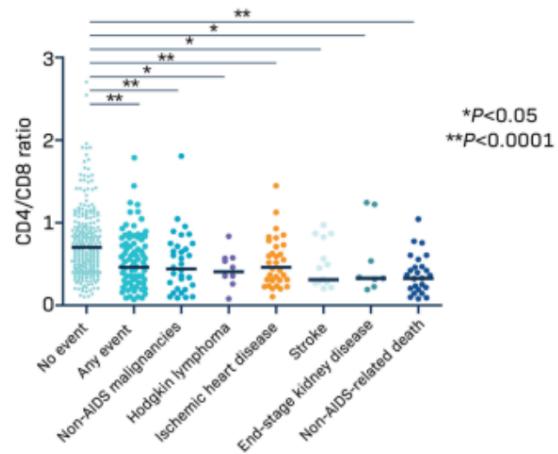
CD4/CD8 T Cell Ratio

CD4/CD8T cell ratio is incredibly informative on disease. A value between 1 and 4 is ideal. A value between 0 and 1 marks “inverted ratio”. 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 prevalence of an inverted CD4/CD8 ratio increases with age. An inverted ratio is seen in 8% of 20-59 year olds and in 16% of 60-94 year olds. Women across all age groups are less likely to have an inverted ratio than their male counterparts.

Age, and hormone-related atrophy of the thymus is theorized to explain the differences between populations. Hormonal influence on the ratio is supported by a correlation between low Plasma Estradiol levels, high circulating CD8, and low CD4/CD8 ratios in women with premature ovarian failure.

We have been able to refer patients for additional testing to diagnose HIV, Chronic Lymphocytic Leukemia, and even individuals taking their Rapamycin at too high of a dose. **If you see a low CD4/CD8 ratio, it is not an immediate cause for concern but we might recommend testing via traditional labs just in case.** A value of 4+ marks hyperactivity or possible infection, autoimmunity or additional immune risk phenotypes.



CELL TYPE	MEAN	REFERENCE RANGE	YOUR RATIO
CD4/CD8T	2.59	1.00-4.00	1.69



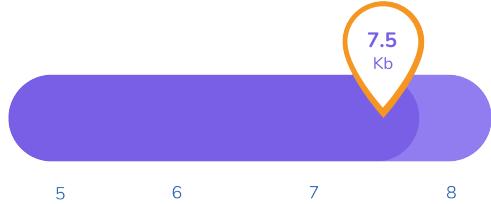
Other Immunosenescence Ratios

RATIO	ABOUT THIS RATIO	NORMATIVE RATIO	YOUR VALUE
Neutrophil to Lymphocyte	<p>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.</p>	<p>NLR reflects physiological stress. The mean NLR is 1.70 ± 0.70.</p>	1.819
Lymphocyte to Monocyte	<p>Elevated MLR levels can indicate increased inflammation associated with atherosclerosis and coronary artery disease, as well as poor prognosis in cancer patients. Conversely, a decreased MLR may be observed in immunocompromised states such as HIV AIDS or following chemotherapy.</p>	<p>The mean lymphocyte-tomonocyte ratio is 11.15 ± 3.14</p>	4.96



Telomere Length

Telomere Length:

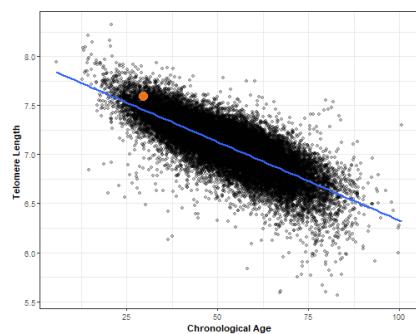


If we were to estimate your biological age **strictly from your telomere measurement**, we would anticipate your age to be:

21.13

YEARS OLD

Telomere Length Based on Biological Age Prediction:



Your Average telomere prediction length:

7.5 kb

This puts you in the:
83rd Percentile

Changes Over Time



ALGORITHM

PATIENT DATA

MORBIDITY AND MORTALITY ASSOCIATIONS

RISK STATEMENT

Telomere

7.5
Kilobase
Unit

At your chronological age of 29.44, your telomeres are longer than 83rd% of people who share the same chronological age as you.

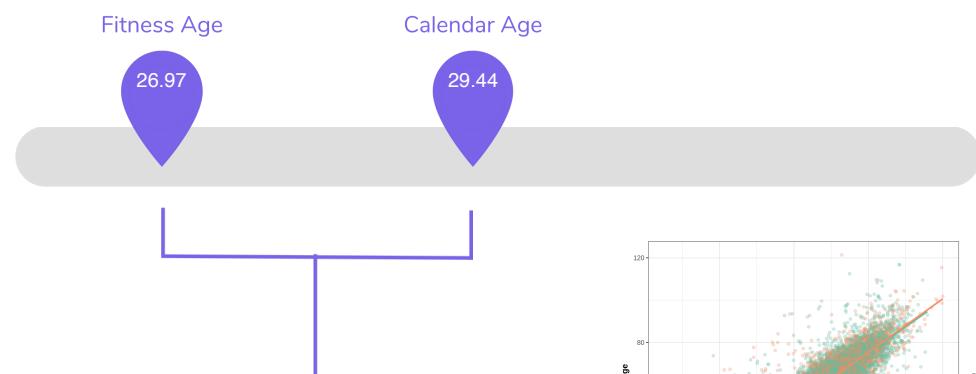
Shorter telomeres are not only associated with age but with disease too. Shorter telomere length and low telomerase activity are correlated with several chronic preventable diseases.



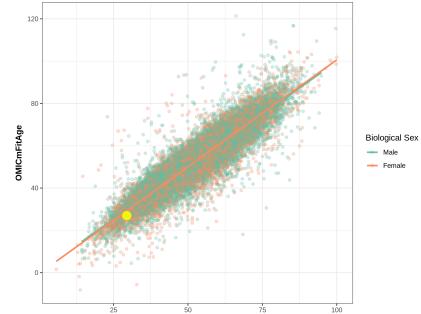
Fitness Age

OMICm FitAge

The incorporation of physical fitness measurements into epigenetic clocks **increases the measurable effects of lifestyle, medical, and environmental interventional changes** on the aging process. The DNAmFitAgeAccel algorithm, also simply known as FitAgeAcceleration, was developed by researchers at UCLA, and is an estimate of epigenetic age acceleration. We have created a version of this, however, we incorporated our **OMICm Age** algorithm (developed with Harvard) instead. We call this **OMICm FitAge**, which tells you how old you are according to your physical fitness and functionality.



Your OMICm FitAge is
LOWER THAN
your calendar age by 2.47 years.



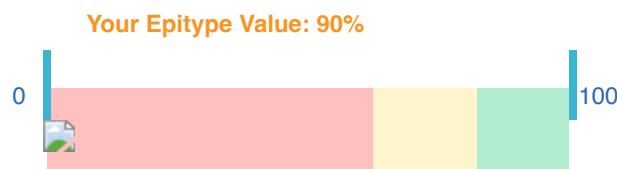
For every one year older OMICm FitAge is, there is an average **0.29 decrease in relative grip strength** and **0.32 increase in BMI**. OMICm FitAge has estimated that high-fit individuals (classified through VO2max) have a **1.5 to 2.0 younger biological age** compared to low/medium fit individuals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



Smoking & Drinking

Smoking Risk

AHRR (cg05575921)
Average Beta Value %:

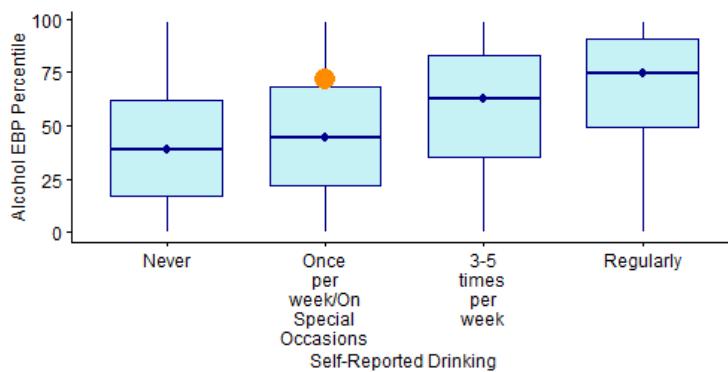


The impact that tobacco smoke exposure has on the epigenome is based on the level of methylation at the AHRR gene locus cg05575921.

Your DNA methylation score was **90%** at the AHRR locus, meaning that your methylation score aligns with the status of **non-smoker**, putting you at **low risk** for developing smoking-related conditions.

[0%-63%] High Risk	[64%-82%] Intermediate Risk	[83%-100%] Low Risk
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Alcohol Consumption and DNA Methylation



On your intake survey, you self-reported your drinking status as **once per week**. With our custom epigenetic biomarker proxy, you are in the **72th** percentile. This means your score is higher than **72.0%** of the population we have tested.

***Those who marked self-reported drinking as “Not Applicable” were assumed to have no drinking status and have been combined with data from “Never” status.**



Weight Loss Response

CPG SITE	GENE	β - VALUE RESPONDERS	YOUR SCORE	RESPONSE STATUS
cg15500865	PON3	0.072	0.09	Hypermethylated
cg25161512	PON3	0.115	0.14	Hypermethylated
cg11435506	PON3	0.165	0.06	Hypomethylated
cg03301582	PON3	0.120	0.09	Hypomethylated
cg08898155	PON3	0.163	0.04	Hypomethylated
cg04080282	PON3	0.324	0.22	Hypomethylated
cg26457160	PON3	0.490	0.52	Hypermethylated
cg10329418	PON3	0.252	0.29	Hypermethylated
cg27166921	PON3	0.253	0.33	Hypermethylated
cg24750391	PON3	0.355	0.39	Hypermethylated
cg08461772	PON3	0.418	0.40	Hypomethylated

RISK REPORT	PATIENT OUTCOMES	SUMMARY	IMPACT	ADDITIONAL NOTE
Weight Loss Response	Intermediate response	Your DNA methylation scores at the above loci indicate you are a Intermediate responder for weight loss treatment utilizing a hypocaloric diet. This means you may or may not lose weight from caloric restriction.	If your DNA methylation score puts you in the category of non-responder or intermediate responder then a hypocaloric diet might not be the best treatment option for you. If you are a responder, that means a hypocaloric diet has a greater chance of positively impacting your weight loss goals.	Studies on these particular CpG loci have concluded that some individuals have a better response to a calorie deficit diet than others. This may indicate why weight loss has been difficult to achieve and can provide insight into finding the best weight loss strategy.

