

A large, detailed image of Earth and the Moon in space. The Earth is on the left, showing a curved horizon with blue oceans and white clouds. The Moon is on the right, appearing as a smaller, cratered sphere. The background is a deep black space.

beyondage®

Know Your Tomorrow

From the frontier of space biology to the future of your health — this is your personalized BeyondAge report.

cosmica
Biosciences

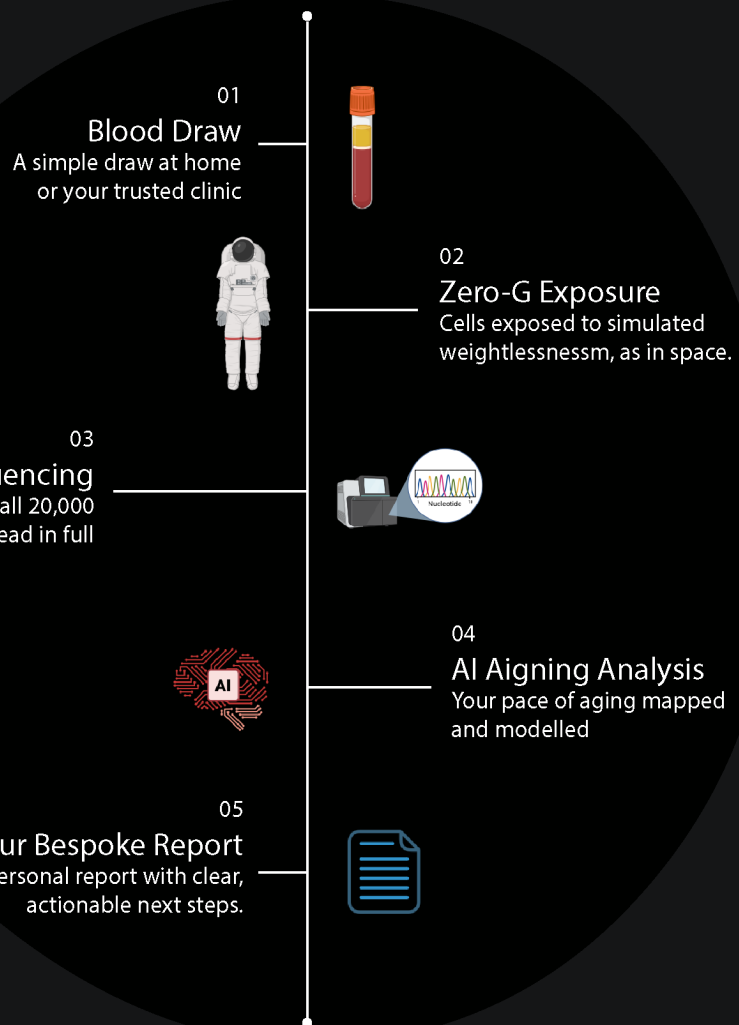
Born in Space, Crafted in California.

It was at NASA where Dr. Susi Zanello first observed that zero gravity caused astronauts to age rapidly at the cellular level. She reached out to Dr. David Furman, an expert in immune aging, and their collaboration soon grew into a deep friendship. Together, they pioneered a way to replicate space-induced aging here on Earth—artificially accelerating cells to predict how aging unfolds at the individual level.

While facing her own terminal illness, Dr. Zanello entrusted Dr. Furman with their shared vision, passing him the torch to carry their work forward for the greater good. From that moment, Cosmica was born.

Since then, Dr. Furman has assembled a team of leading experts dedicated to bringing this breakthrough technology to the world. At Cosmica, we go beyond simply measuring one's biological age - we aim to determine future aging trajectories across multiple hallmarks and help people stay below their aging curves.

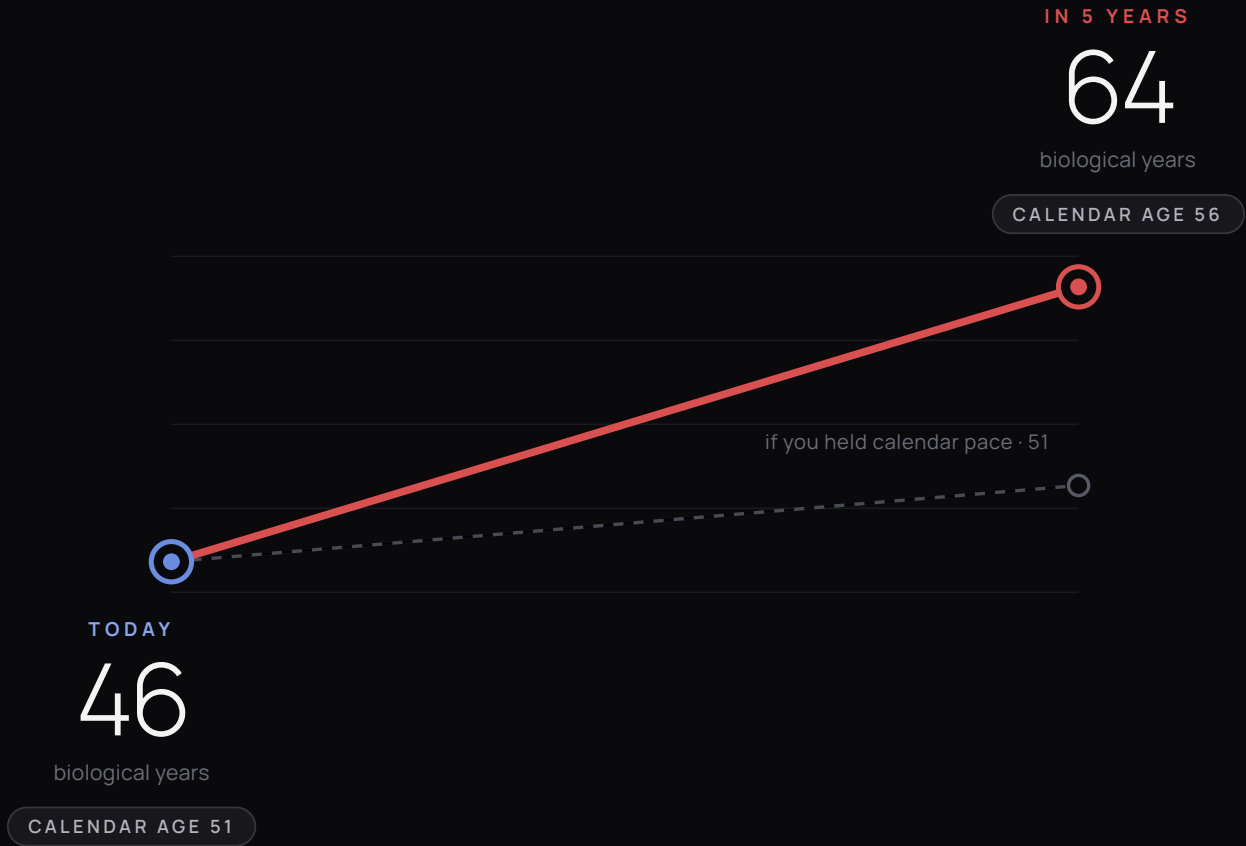
As you read this report, take a moment to appreciate the decades of collective research behind it. By joining us, you are stepping beyond what has been known as aging, becoming part of a pioneering group who can not only predict the future of their health—but also take action to change it.



1 Blood Draw
2 Time Points

YOUR AGING TRAJECTORY

You're biologically **5 years younger** than your age today.
But you're aging **faster than the calendar**.



"What sets this test apart is that it doesn't freeze your biology into a single snapshot — it reveals your trajectory. This is the science of aging in motion."

— Dr. David Furman, CEO

WHAT'S PULLING YOU OFF CURVE

Your top drivers.

Of your 14 hallmarks, these 3 are adding the most biological time over the next 5 years. Focus here first.

1

Inflammation

Low-grade background inflammation that quietly accelerates aging.

+12 yrs**43 yrs → 55 yrs**

BIO AGE NOW → IN 5 YRS

Quietly drives most age-related disease — and responds well to diet, sleep, and movement.

2

Cellular signaling

How clearly your cells send and receive signals from each other.

+8 yrs**41 yrs → 49 yrs**

BIO AGE NOW → IN 5 YRS

Cellular crosstalk degrades with age; metabolic and signaling support can help.

3

Protein quality

How well your cells fold, maintain, and recycle their proteins.

+7 yrs**46 yrs → 53 yrs**

BIO AGE NOW → IN 5 YRS

Protein maintenance slips with age — fasting and exercise support cellular cleanup.

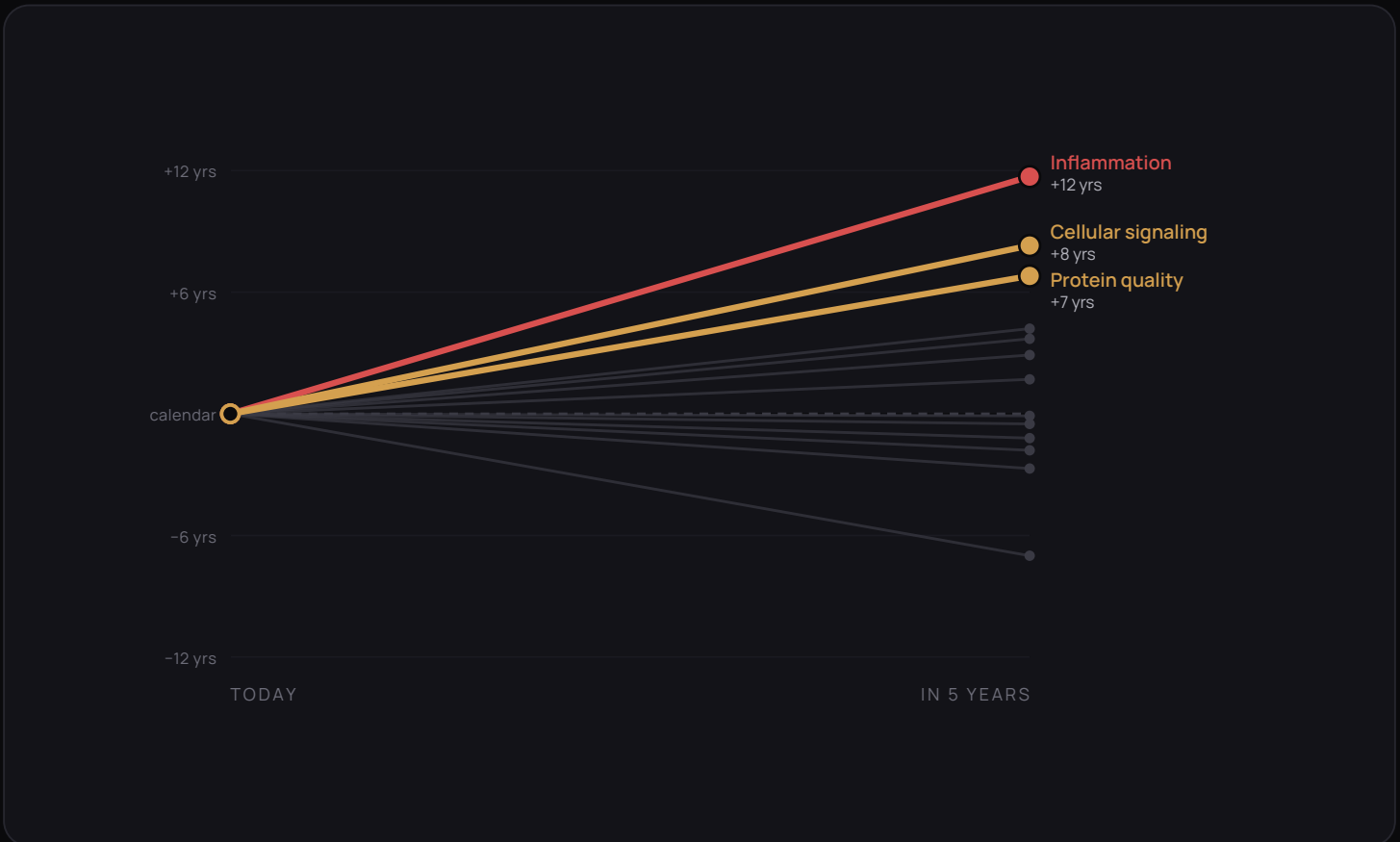
The remaining hallmarks are drifting more gently — you'll find all 14 mapped later in this report.

YOUR AGING FINGERPRINT

All 14 hallmarks, one view.

Every line is one of your hallmarks projected over the next 5 years. Lines rising above the calendar baseline are heading in the wrong direction; lines falling are improving. The three with the strongest signal are highlighted.

[learn about each hallmark →](#)



Your fingerprint is shaped most by **Inflammation**, **Cellular signaling**, and **Protein quality**. Each of these hallmarks is detailed earlier in the report, with matched interventions on the following page.

YOUR HIGH-IMPACT ACTIONS

What to do about it.

Your top recommendations across foods, supplements, and movement, matched to your full gene-expression profile. [see the science →](#)

EAT Top foods

- 01 **Lime** · Citrus [via Hesperidin](#) ●●●
Good source of Vitamin C and antioxidants that support immune function and healthy skin.
- 02 **Blueberry** · Berries [via Arbutin](#) ●●●
Particularly known for supporting vision and eye health, especially night vision.
- 03 **Sunflower** · Oilseed crops [via Isoferulic acid](#) ●●●
Rich in Vitamin E, a powerful antioxidant that protects cells; supports heart health.

TAKE Top supplements

- 01 **Squalene** [Other Compounds](#) · 300-1,000 mg ●●●
A natural organic compound, found in shark liver oil and olive oil, used for skin health and antioxidant support.
- 02 **Puerarin** [Herbal & Plant Extracts](#) ●●●
An isoflavone from Kudzu root, used for cardiovascular health, alcohol craving reduction, and menopausal symptoms.
- 03 **Melatonin** [Other Compounds](#) · 1-5 mg ●●●
A hormone that regulates sleep-wake cycles, used for sleep disorders, jet lag, and insomnia.

MOVE Top movement

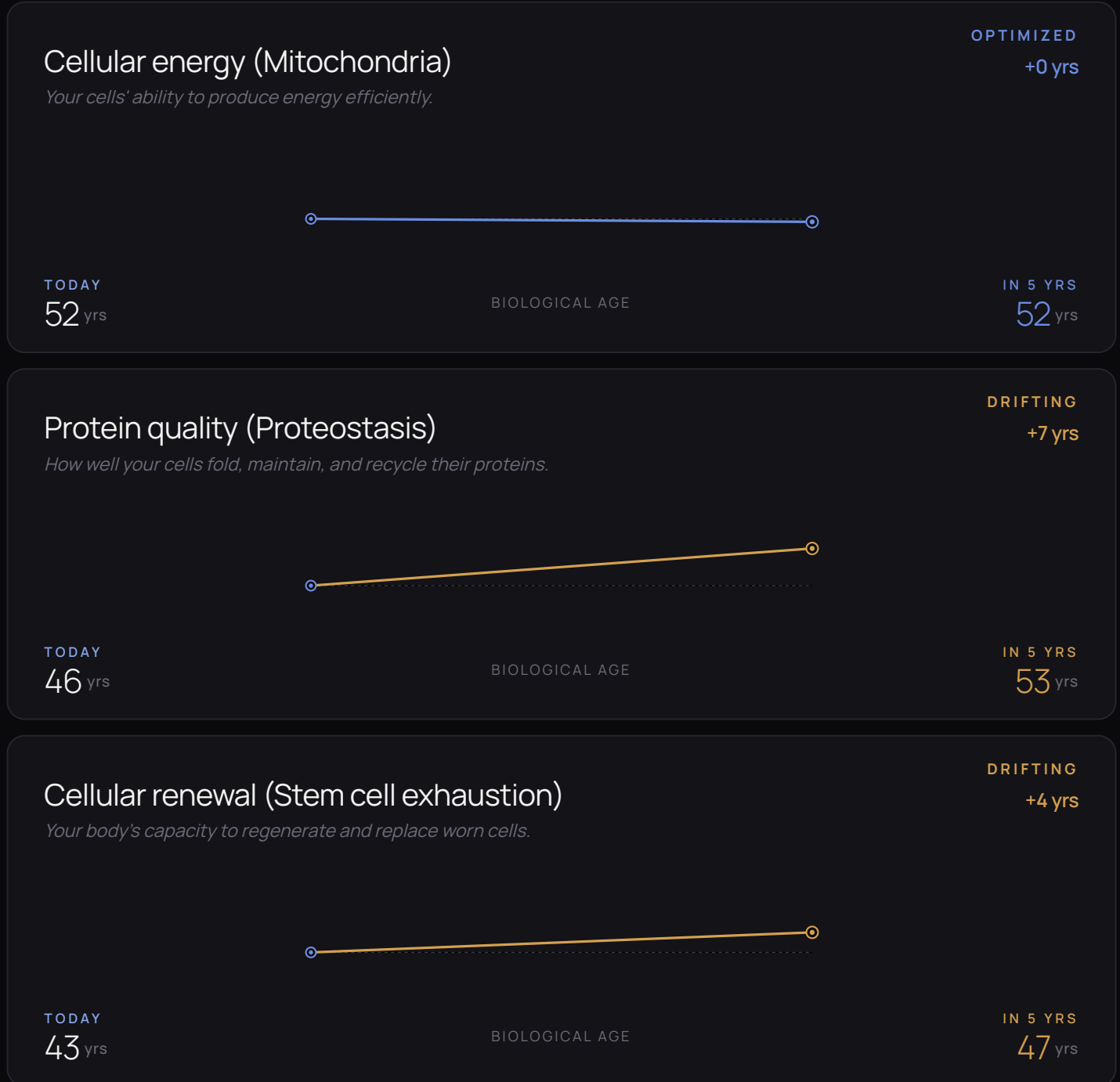
- 01 **Cross-Country Skiing (or Ski Ergometer)** · 1-h and longer ●●●
Moderate to Vigorous Intensity
- 02 **Cycling** · 1-h and longer ●●●
Moderate to Vigorous Intensity
- 03 **Rowing** · 1-h and longer ●●●
Moderate to Vigorous Intensity

Full library of all foods, supplements, and exercises follows on the next pages.

THEME 1 OF 5

Cellular machinery.

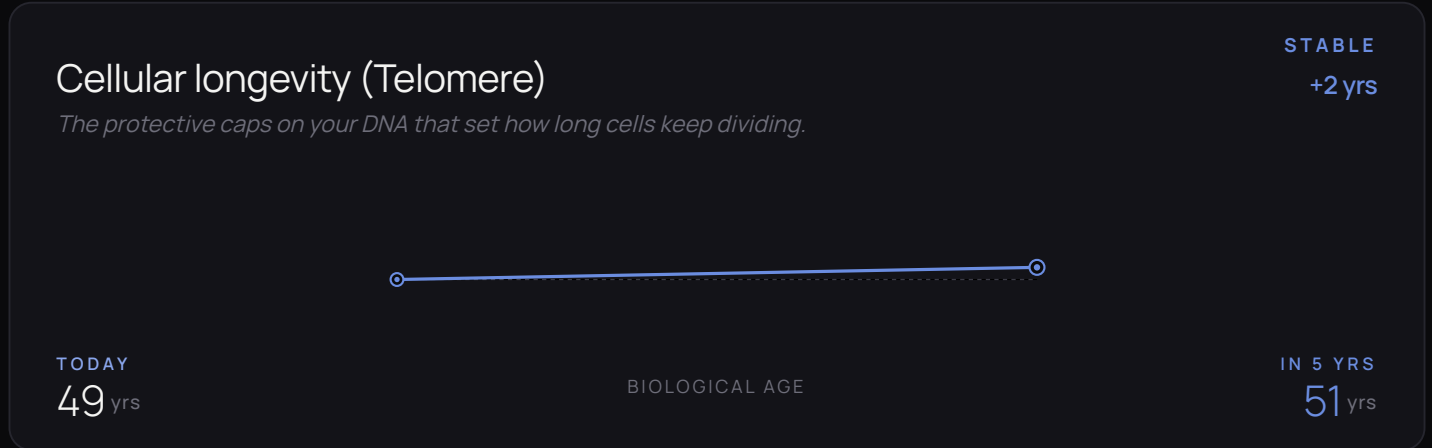
How your cells produce, maintain, and replace themselves.



THEME 2 OF 5

Cellular lifecycle.

The arc of cellular life and how worn-out cells accumulate.



THEME 3 OF 5

Information & regulation.

The signaling layer that tells cells what to do.



THEME 4 OF 5

Body-wide systems.

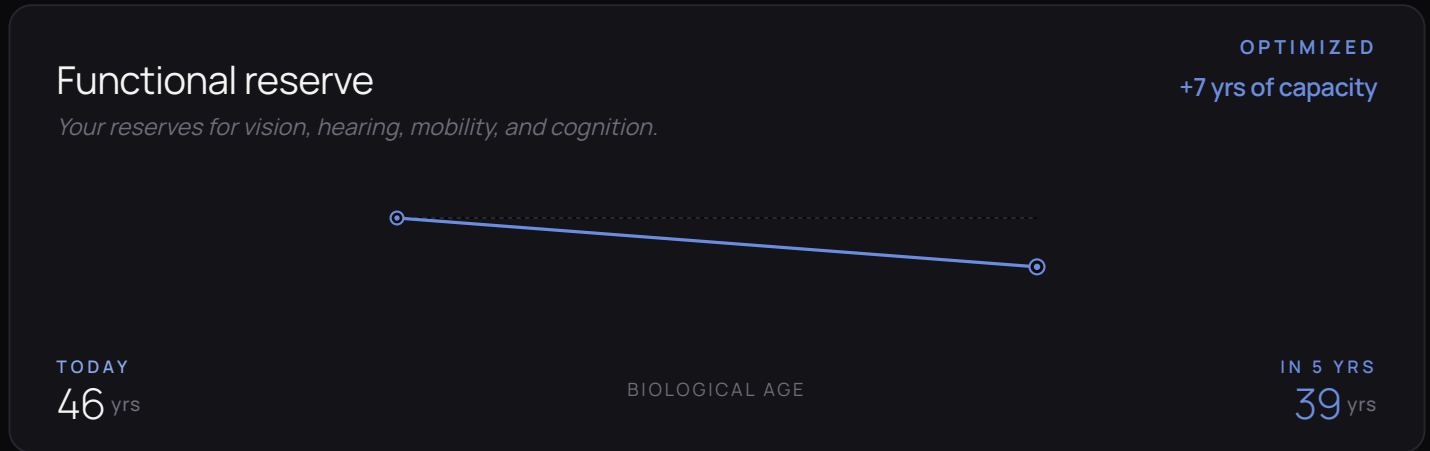
Whole-body biological systems beyond the cellular level.



THEME 5 OF 5

Your reserves.

How much capacity your biology has left. Most hallmarks measure how fast you're aging; these two measure how much room you have before it starts to show.



FULL LIBRARY

Your full library.

Every food, supplement, and movement scored against your gene-expression profile, ranked by relevance. Top picks are shown earlier in the report.

EAT		20 items		TAKE		10 items		MOVE		10 items	
01	Lime Citrus	...		01	Squalene Other Compounds	...		01	Cross-Country Skiing (or Ski Ergometer) 1-h and longer	...	
02	Blueberry Berries	...		02	Puerarin Herbal & Plant Extracts	...		02	Cycling 1-h and longer	...	
03	Sunflower Oilseed crops	...		03	Melatonin Other Compounds	...		03	Rowing 1-h and longer	...	
04	Carambola Tropical fruits	...		04	Daidzein Herbal & Plant Extracts	...		04	Running 1-h and longer	...	
05	Pepper Fruit vegetables	...		05	Dihydrocapsaicin Herbal & Plant Extracts	...		05	Swimming 1-h and longer	...	
06	Cranberry Berries	...		06	Rosmarinic acid Herbal & Plant Extracts	...		06	Elliptical Training 30-min	...	
07	Pear Pomes	...		07	Glutathione Amino Acids & Derivatives	...		07	Bodyweight HIIT Circuits 10 2-min bouts with 1-min rest	...	
08	Berries Berries	...		08	Catechin Herbal & Plant Extracts	...		08	Cycling HIIT 10 2-min bouts with 1-min rest	...	
09	Date palm fruit Other fruits	...		09	Epicatechin Herbal & Plant Extracts	...		09	Rowing HIIT 10 2-min bouts with 1-min rest	...	
10	Endive Leaf vegetables	...		10	Isoflavones Herbal & Plant Extracts	...		10	Running HIIT 10 2-min bouts with 1-min rest	...	
11	Quince Pomes	...									
12	Apricot Drupes	...									
13	Lemon balm Herbs	...									
14	Algae Seaweed	...									
15	Mango Tropical fruits	...									
16	Cheese Fermented milk products	...									
17	Rose hip Herbs	...									
18	Leafy green Herbs	...									
19	Yam Tubers	...									
20	Oat Cereals	...									

Relevance dots reflect how strongly each item matches your gene-expression profile. Items with stronger signal are shown higher in their list.

REFERENCE

Your hallmarks, explained.

A short reference for each of the 14 hallmarks measured in this report, organized by the same themes used in your walk-through.

HEADLINE MEASURE

Biological age

A composite biological age derived from your full gene-expression profile — the headline measure summarizing how your cells are reading today.

CELLULAR MACHINERY

Cellular energy (Mitochondria)

The energy factories inside every cell. Mitochondrial decline shows up first in tissues with high energy demand.

Protein quality (Proteostasis)

Your cells' ability to fold, maintain, and recycle proteins. As this declines, damaged proteins accumulate and cellular function degrades.

Cellular renewal (Stem cell exhaustion)

The decline in your body's pool of regenerative stem cells. Tissues lose the ability to repair and replace damaged cells.

CELLULAR LIFECYCLE

Cellular longevity (Telomere)

The protective DNA caps at chromosome ends. They shorten with each cell division and signal when a cell can no longer safely replicate.

Cellular wear and tear (Senescence)

The accumulation of cells that have stopped dividing but refuse to die. They secrete inflammatory signals that damage surrounding tissue.

INFORMATION & REGULATION

Gene regulation (Epigenetics)

The chemical marks that turn genes on or off without changing the DNA itself. These marks shift with age and are highly responsive to environment.

Cellular signaling

How clearly cells send and receive chemical signals. Cellular crosstalk degrades with age, disrupting tissue coordination.

Nutrient sensing

How your cells detect and respond to fuel availability — the mTOR, IGF-1, and AMPK pathways that govern growth versus repair.

BODY-WIDE SYSTEMS

Inflammation

Low-grade, long-running inflammation distinct from acute response. It quietly drives most age-related disease and is highly modifiable.

Immune health

The age and balance of your immune cell population. Measured on a cell-proportion scale, not biological years.

Metabolic health

How efficiently your body manages energy, glucose, and lipid balance. Shown here as your chronological age plus a metabolic age residual — values above your calendar age indicate accelerated metabolic aging.

YOUR RESERVES

Functional reserve

Your reserves for the WHO's five domains of healthy aging: cognition, mobility, sensory function, vitality, and psychological state.

Stress recovery

How well your biology recovers from physiological stress and damage — DNA repair capacity, stress-response pathways, and autophagy.

METHODOLOGY

How your plan was made.


Two people with the same hallmark profile can still need different foods, supplements, and movement. Here's how we got from a single blood draw to a plan that's specific to your biology.

1 YOUR BLOOD → YOUR CELLS

We start with one draw of your blood.

From a single tube, we isolate the immune cells circulating in your bloodstream — the cells that age fastest and reveal the most about your overall biology.

1 BLOOD DRAW




The diagram shows a cluster of red and white circles representing 'WHOLE BLOOD' on the left. An arrow points to a cluster of blue circles representing 'IMMUNE CELLS' on the right.

2 YOUR CELLS → YOUR FUTURE

We expose your cells to simulated microgravity.

In zero gravity, cells age dramatically faster — an effect first observed in astronauts. By recreating this in our lab, we generate a second snapshot of your cells in an aged state, giving us two timepoints from a single blood draw.

FIRST OF ITS KIND



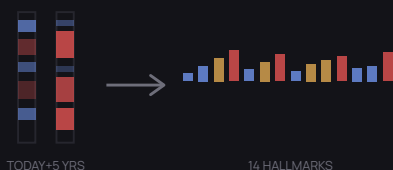
The diagram shows several colored circles (blue, red, yellow) orbiting within an elliptical path, representing 'SIMULATED ZERO-G'.

3 TWO TIMEPOINTS → 14 HALLMARKS

Your gene expression, read twice.

We sequence all 20,000 of your genes at both timepoints — before and after exposure — and our models map the differences to each of the 14 hallmarks of aging, producing your unique aging fingerprint.

20,000 GENES · 14 HALLMARKS



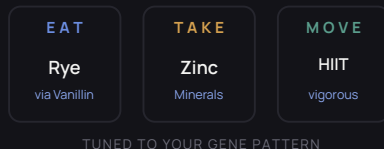
The diagram shows two vertical bars representing 'TODAY+5 YRS' on the left, which are processed into a horizontal bar chart representing '14 HALLMARKS' on the right.

4 YOUR HALLMARKS → YOUR PLAN

We match your gene patterns to what works.

From a library of **800 foods, 400 supplements, and 18 forms of movement** — each studied for the genes it shifts — we pick the ones that bring your off-pattern genes back into balance.

5 YRS IN DEV · UK BIOBANK + GTEx



The diagram shows three boxes: 'EAT Rye via Vanillin', 'TAKE Zinc Minerals', and 'MOVE HIIT vigorous'. Below them is the text 'TUNED TO YOUR GENE PATTERN'.

FIRST OF ITS KIND

∞ You're holding a longevity report built from your cells' response to space. Nobody else on Earth has this one.

"Aging is not a snapshot — it is a trajectory. BeyondAge was created to help reveal where your biology may be headed, giving us an opportunity to move from simply measuring health to anticipating risk and changing its course."

- Dr. David Furman



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