

FACT SHEET

Advanced Proteomics

A molecular view of your protein profile.

A non-invasive proteomic test that analyses proteins from a cheek swab and translates them into ageing-related estimates, functional pathway scores and personalised lifestyle insights.

SAMPLE Non-invasive cheek swab, collected at home or in a clinic.



Buccal swab

Non-invasive collection

7,496

Protein groups in the curated library

508 proteins

Used in the ProteoAge model

OVERVIEW

What the report includes

Proteins carry out almost every process in the body, and their expression shifts with age, diet, training and stress. Protein profiles complement genetics, epigenetics, metabolomics and routine clinical biomarkers. Each biological layer provides different information.

01 Ageing profile ProteoAge Index of Aging Model-derived scores mapped to the Hallmarks of Aging framework	02 Functional protein insights Cellular energy Metabolic regulation Inflammatory response Nutrient handling Connective tissue Oral health	03 Lifestyle and recommendations Nutrition profile Sport profile Personalised food, activity and supplement suggestions for professional review
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WHAT IS MEASURED

Inside your proteomic report

The report brings ageing, nutrition, sport and functional protein insights together in a visual dashboard, with detailed explanations and personalised recommendations.

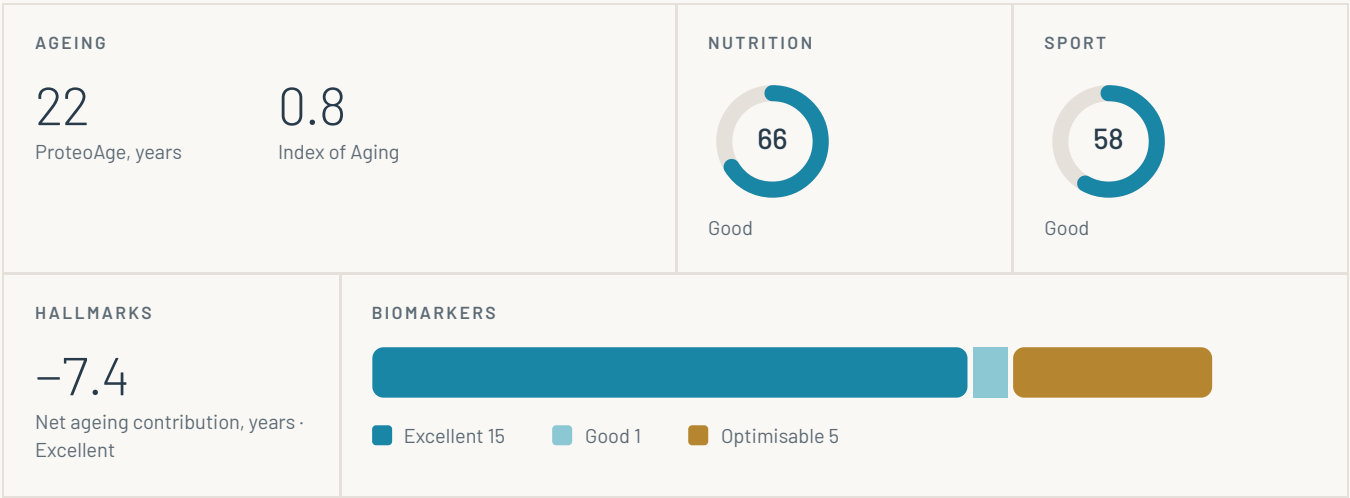
AGEING ProteoAge and the Index of Aging.	NUTRITION A profile of nutrient-related protein pathways.
SPORT Activity and recovery-related insights.	HALLMARKS Model-derived ageing pathway contributions.
BIOMARKERS Functional protein profiles and status categories.	RECOMMENDATIONS Personalised food, activity and supplement suggestions, for professional review.

WHAT YOU GET

From protein data to a plan you can act on

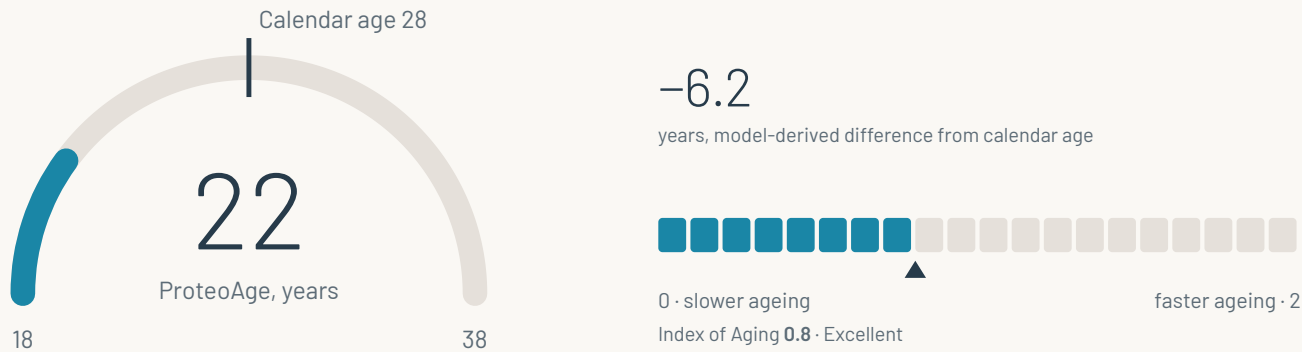
For the patient ● ProteoAge, a model-derived protein age compared with your calendar age ● Your Index of Aging and Hallmarks of Aging profile ● Nutrition and sport profiles ● Functional protein profiles with clear status categories ● Food, activity and supplement suggestions to review with a professional	For the clinician ● A functional layer next to genetics, epigenetics, metabolomics and routine biomarkers ● Hallmark-level contributions to help prioritise follow-up ● A proteomic baseline for exploring change over time ● Non-invasive collection, at home or in clinic ● Reported test-retest repeatability for relative biological age
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Five connected views



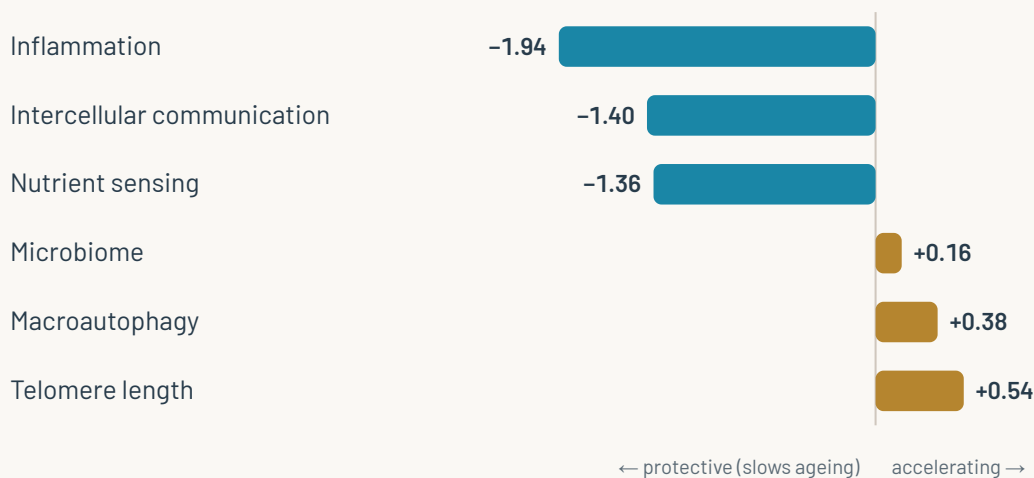
Illustrative dashboard. The values are example data from a sample report, not expected results for an individual.

ProteoAge and the Index of Aging



ProteoAge is trained on chronological age using 508 proteins. The report compares its estimate with calendar age and shows the model-derived difference. Example values.

Hallmarks of Aging: top 3 and bottom 3



The Index of Aging and the Hallmarks of Aging give complementary views. Contributions labelled in years are model outputs and should not be read as years of life gained or lost. Example values.

Functional protein profiles

NUTRIENT PROFILES

Vitamin A turnover

The cycle of vitamin A



Vitamin E turnover

Vitamin E usage in the body



Vitamin D turnover

Utilisation for bone, immune function and metabolism



Zinc turnover

Zinc handling for immune function and healing



STRUCTURAL & ORGAN HEALTH

Renal efficiency

Removing waste products



Connective tissue health

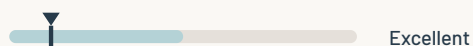
Tissue resilience



INFLAMMATORY RESPONSE

Inflammatory response (CRP-related)

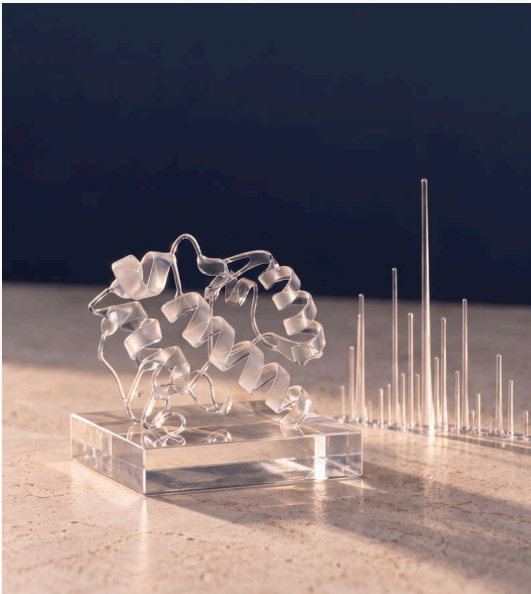
Acute inflammatory activity



Vitamin A, E and D turnover and zinc-related profiles are protein-based interpretations, not measurements of serum vitamin or zinc concentrations. Renal efficiency, connective tissue and CRP-related profiles do not replace renal function tests, clinical assessment or serum CRP testing. Example values.

HOW IT WORKS

From sample to insight



1. COLLECT

A cheek swab, taken at home or in a clinic.

2. RETURN

The sample is returned according to the kit instructions.

3. ANALYSE

High-resolution mass spectrometry and bioinformatic analysis of the protein profile.

4. REPORT

A personalised proteomic report with explanations and recommendations.

CLINICAL VALUE

Use in a multi-omics programme

Establish a proteomic baseline and explore changes over time alongside clinical history, routine laboratory testing and other omics results.

01	BASELINE	Establish the proteomic profile before anything changes.
02	COMBINE	Read it with clinical history, routine testing and other omics.
03	RE-MEASURE	Interpret change against sampling conditions, analytical variation and biological variability.

MEASURE → INTERVENE → RE-MEASURE → VERIFY

LIMITATIONS

A model-derived view, not a diagnosis

Buccal samples reflect oral epithelial biology and may also contain broader biological signals. Hallmark and functional scores are inferred from protein patterns: they are not direct measurements of telomere length, DNA methylation, microbiome composition, blood vitamin levels or standard serum lipid and inflammatory markers. Contributions shown in years are model outputs, not years of life gained or lost, and a lower age estimate alone does not demonstrate reversal of ageing or improved health outcomes.

For informational and wellness use. The report does not independently diagnose disease or nutrient deficiency and does not replace clinical assessment. Recommendations require review for individual suitability. Availability and regulatory status vary by market.

Method and evidence

Analytical method

High-resolution Orbitrap mass spectrometry with data-independent acquisition (DIA), followed by bioinformatic analysis. The platform can identify up to 9,000 proteins; the routine workflow uses a curated spectral library of 7,496 protein groups. Coverage is not a guarantee that every protein is quantified in every sample.

What ProteoAge represents

ProteoAge is trained to estimate chronological age from the abundance patterns of 508 proteins in buccal-swab samples. The difference from chronological age is reported as relative age acceleration or deceleration. It is a model-derived estimate, not a direct measurement of whole-body ageing or mortality risk.

Repeatability

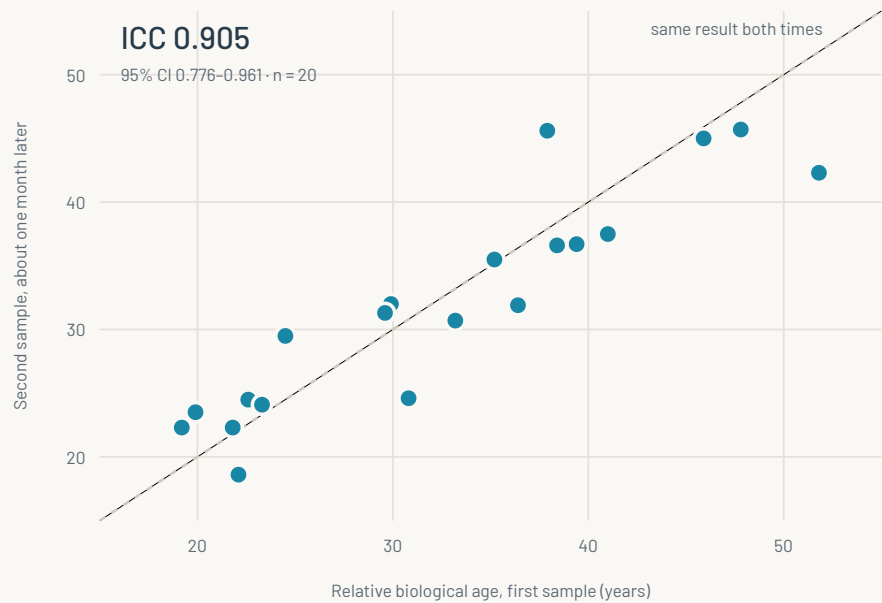
In 20 stable controls sampled about one month apart, relative biological age had a test-retest ICC of 0.905 (95% CI 0.776–0.961). A baseline study of more than 500 participants reported a sample correlation of 0.84. This supports repeatability within the studied setting; it does not establish clinical outcome prediction or a threshold for meaningful individual change.

Analytical controls

Reference samples run across plates and batches. On raw, non-normalised data the median protein-level CV is 30.4%, and housekeeping proteins range from 21.4% to 29.2%. Normalisation and batch correction then reduce technical variation. Reprocessing the same raw data gives 99% overlap in the selected fragments.

METHOD AND EVIDENCE

Repeatability of relative biological age



Twenty stable controls, sampled about one month apart. Points redrawn from the technical data. Repeatability supports consistency within this study; it does not establish disease prediction, intervention efficacy or an individual threshold for meaningful change.

METHOD AND EVIDENCE

Collection and analytical controls

0.84 Correlation between two baseline samples, more than 500 participants	30.4% Median protein-level CV across reference samples, raw and uncorrected	21-29% CV of housekeeping proteins across reference samples, raw	99% Overlap in selected fragments when the same raw data is processed twice
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From the technical data. These analytical measures do not establish clinical efficacy or an individual threshold for meaningful change.

WHITE-LABEL OPPORTUNITY

Your programme. Your brand. Our infrastructure.

Advanced Proteomics can be integrated into healthcare, longevity and preventive-health programmes as a branded or co-branded testing pathway, without building the laboratory infrastructure behind it.

White-label options can include

- Branded test kits and packaging
- Integration into existing clinic or longevity programmes
- Remote sample collection
- Laboratory analysis
- A patient-facing experience in your name
- Results delivered into your preferred reporting environment
- Repeat testing and longitudinal programmes

Partner value

REMOTE ACCESS

Sample collection at home, outside the clinic.

FUNCTIONAL DEPTH

A protein-based ageing and lifestyle layer, without a blood draw.

LONGITUDINAL USE

Repeat testing to follow change over time.

Advanced Proteomics

A molecular view of your protein profile.

Where Longevity Becomes Measurable.

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