

FACT SHEET

Immune Ageing & Glycan Biology

A glycan-based view of biological ageing.

Immune Ageing & Glycan Biology analyses glycans attached to immunoglobulin G (IgG), an antibody in your blood. It provides a biological age estimate and insights into glycan patterns associated with inflammation and ageing.

SAMPLE Finger-prick blood sample, collected at home.



Home collection

Finger-prick blood sample

Personalised report

Biological age and glycan indexes

Specialist interpretation

An included 1:1 result call

OVERVIEW

See a biological signal in context

You may feel well and have routine blood results within their reference ranges. IgG glycan profiling examines a different biological layer: patterns linked to immune regulation and age-related inflammation. It can add context to your health assessment, alongside symptoms, history and conventional tests. Use your result to discuss sleep, nutrition, activity, stress and recovery with a specialist.

01 Biological age An age in years from IgG glycan patterns Compared with your chronological age Reflects this biomarker model, not the age of every organ	02 Glycan indexes Shield (S) Youth (G2) Mature (G0) Supporting indexes for more detail	03 Interpretation Personalised health insights An included 1:1 result call Additional specialist sessions for follow-up
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WHAT IS MEASURED

What your report includes

A clear starting point for discussing your biology and planning follow-up.

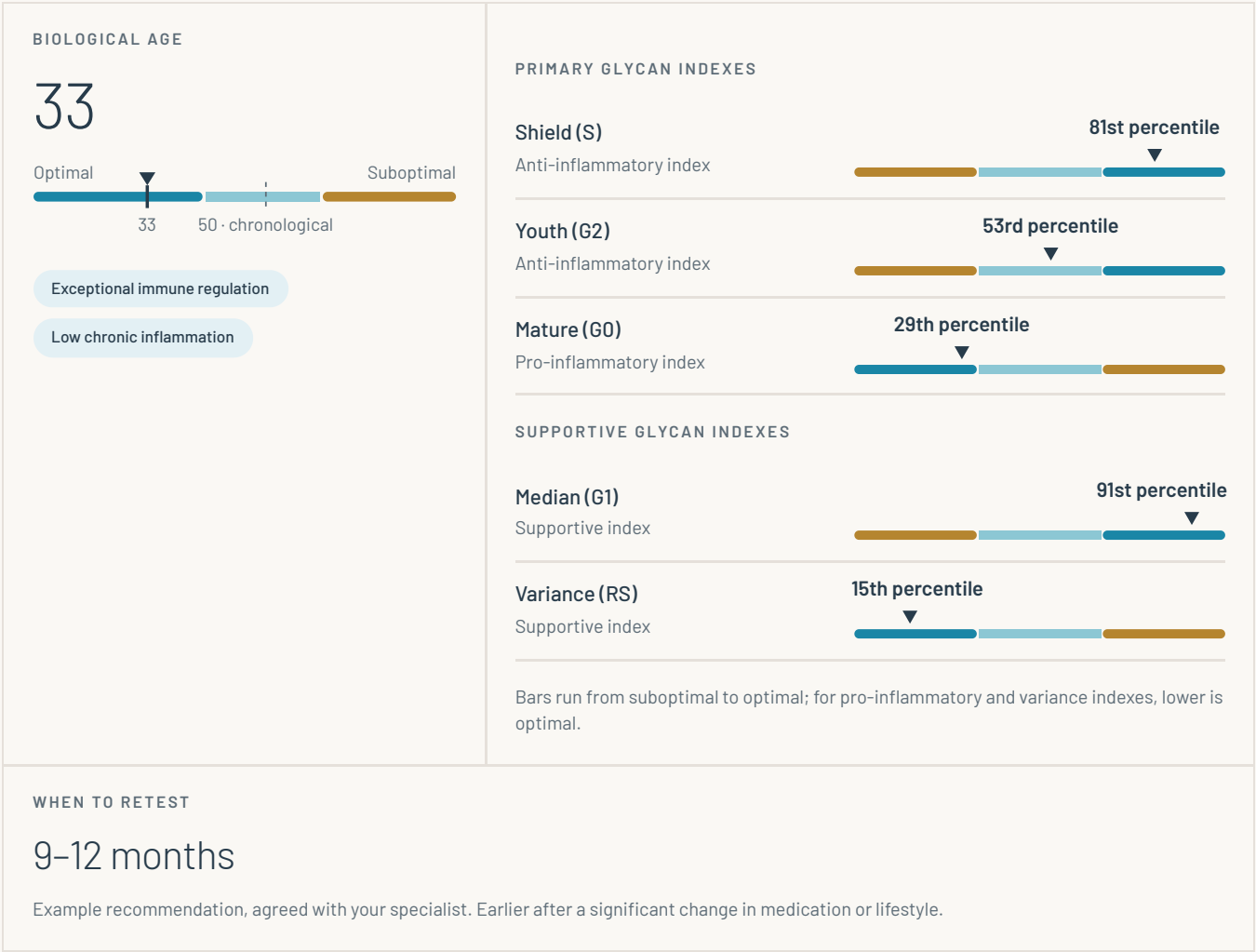
BIOLOGICAL AGE ESTIMATE An age in years derived from IgG glycan patterns and compared with your chronological age. It reflects this biomarker model, rather than the age of every organ.	PRIMARY GLYCAN INDEXES Shield (S), Youth (G2) and Mature (G0), describing patterns associated with anti-inflammatory or pro-inflammatory IgG characteristics.
SUPPORTING GLYCAN INSIGHTS Additional indexes add detail to your glycan profile, interpreted together with the primary results and your clinical context.	PERSONALISED HEALTH INSIGHTS Relevant lifestyle factors and priorities for your specialist to review. A report category does not independently diagnose a condition.
1:1 RESULT INTERPRETATION An included call helps you understand your report, possible influences on the result and sensible next steps.	RETEST GUIDANCE A suggested interval for repeat testing, agreed with your specialist.

WHAT YOU GET

Make your result useful

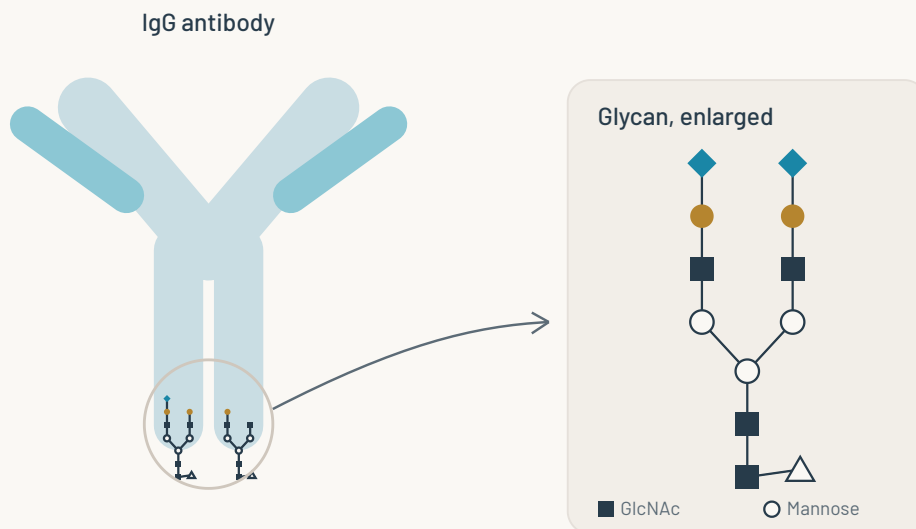
For the patient ● Bring your medication and supplement list, relevant health history and recent changes in sleep, training, nutrition, recovery or hormones ● Use the call to identify practical next steps you can sustain ● Agree what to track and when a repeat test would add useful information	For the clinician ● A biological layer that complements symptoms, history and conventional tests ● Anti- and pro-inflammatory glycan indexes to support the conversation ● A baseline for follow-up, read against biological and analytical variation ● Helps distinguish report suggestions from changes that require clinical review
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Inside the sample report



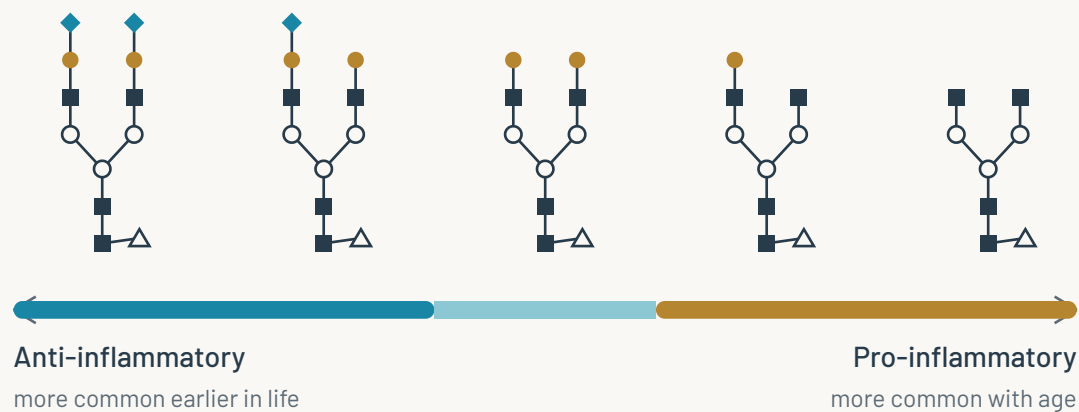
Illustrative sample report with example data, including an age estimate of 33 years. This is not your result or a predicted outcome. Your result is most useful when considered with medical history, medication, hormones, recent illness and other laboratory findings.

The science behind the signal



Glycans are complex sugar structures attached to proteins. On IgG, their composition helps influence antibody function. The test measures the relative abundance of glycan structures and uses selected patterns to estimate age.

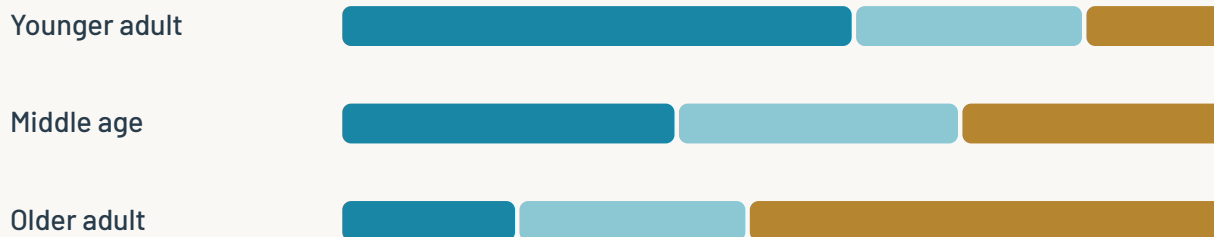
A spectrum of glycan patterns



Glycans with galactose and sialic acid are associated with anti-inflammatory IgG characteristics; glycans without galactose with pro-inflammatory ones. Illustrative.

INSIDE THE REPORT

Patterns change with age

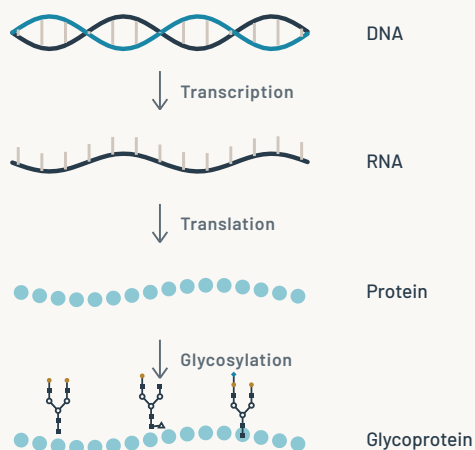


■ Anti-inflammatory ■ Intermediate ■ Pro-inflammatory

Population studies show age-related shifts in IgG glycosylation. Profiles vary between people of the same age and can also be influenced by hormones and health status. The proportions are schematic: they are not diagnostic thresholds or a prediction of how an individual will age.

INSIDE THE REPORT

Beyond the genetic code



Glycosylation adds sugar structures to proteins, changing their functional properties. Glycan analysis therefore examines a different layer from DNA sequencing or DNA methylation testing.

One layer of a complex biology

Chronic inflammation «Inflammaging»: the layer IgG glycan patterns relate to		Epigenetic alterations
		Telomere shortening
Cellular senescence	Mitochondrial dysfunction	Genomic instability
Deregulated nutrient sensing	Loss of proteostasis	Disabled autophagy
Altered intercellular communication	Dysbiosis	Stem cell exhaustion

Chronic inflammation sits within a wider framework of ageing mechanisms. This is that framework, not a list of biomarkers measured by this test. The test focuses on IgG glycans and does not directly measure telomere length, mitochondrial function, epigenetic age or the full set of ageing hallmarks.

HOW IT WORKS

From sample to interpretation



1. ORDER AND REGISTER

Receive your kit and register it using the supplied instructions.

2. COLLECT AND RETURN

Take a finger-prick sample and return it in the supplied prepaid envelope.

3. REVIEW AND DISCUSS

Receive your report and book the included interpretation call. Additional specialist sessions can support follow-up.

CLINICAL VALUE

Retesting and interpretation

One result establishes a baseline. Follow-up results show whether your measured profile has changed.

01	CHOOSE A USEFUL INTERVAL	Agree retest timing with your specialist and allow enough time for the planned change. Keep a record of sleep, exercise, nutrition, illness, medication and hormone changes.
02	READ CHANGES CAREFULLY	Differences can reflect biological and analytical variation as well as lifestyle changes. A lower age estimate alone is not proof that ageing has been reversed or disease risk reduced.
03	PUT SYMPTOMS FIRST	Persistent fatigue, pain or other symptoms need clinical assessment. An age estimate within a favourable range does not exclude disease.

MEASURE → INTERVENE → RE-MEASURE → VERIFY

LIMITATIONS

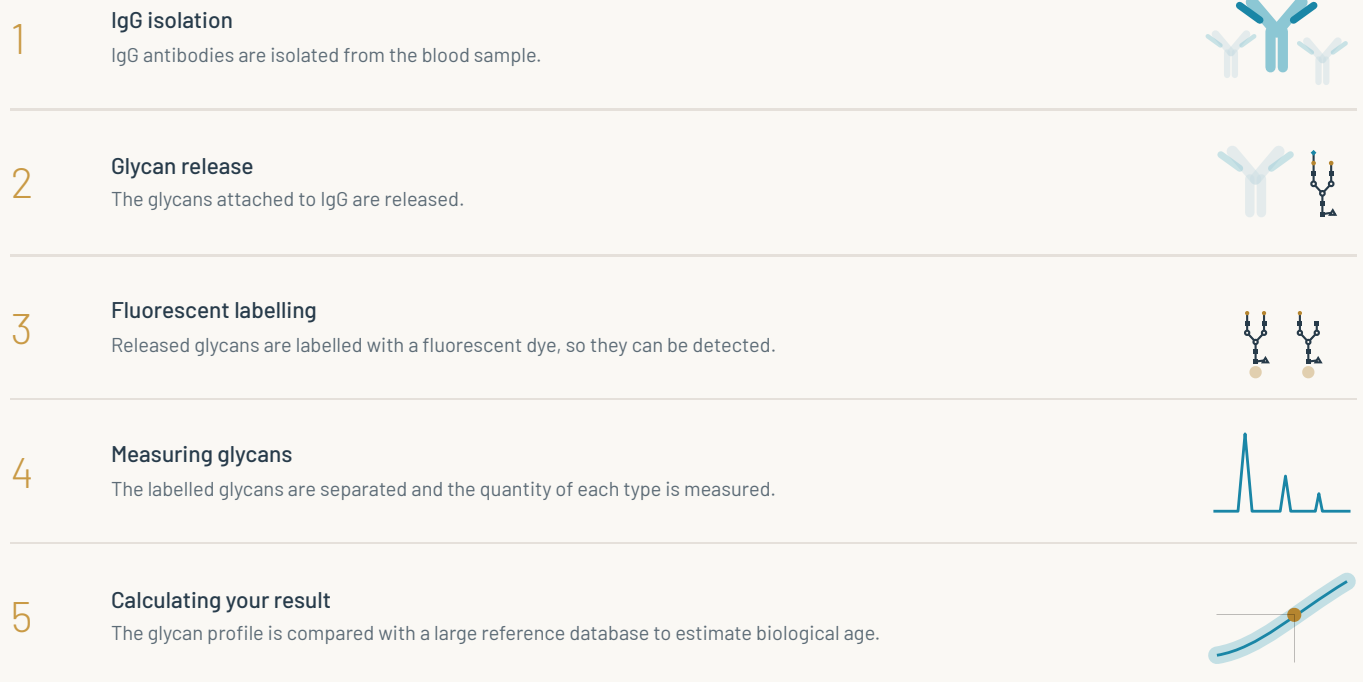
An additional perspective

IgG glycan profiling provides information about inflammation-related biology. It does not measure every inflammatory pathway, identify the cause of inflammation or replace markers such as CRP when clinically indicated. Repeat testing can track whether your glycan profile changes; it cannot establish which habit caused a change or whether health outcomes have improved.

This test complements a clinical assessment. It does not diagnose chronic inflammatory disease, predict a specific illness, or demonstrate that a lifestyle intervention prevents disease. Availability and regulatory status vary by market.

HOW IT WORKS

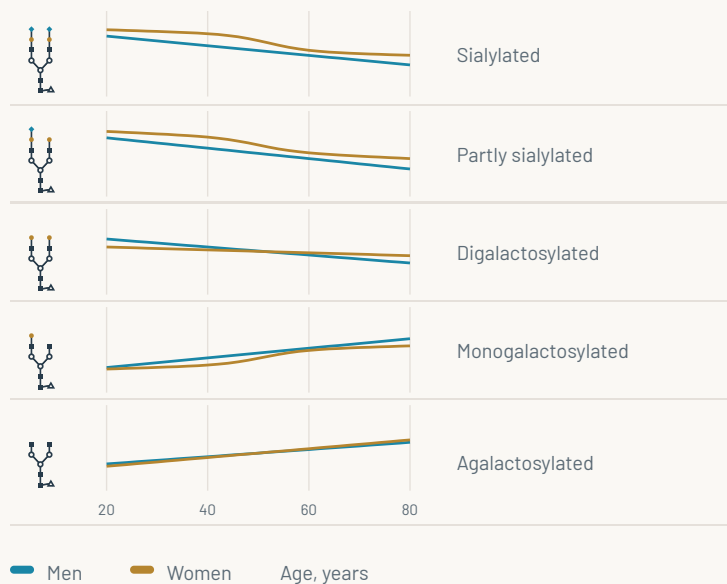
Laboratory workflow



The laboratory process in five steps.

HOW IT WORKS

Age- and sex-associated glycan patterns



Schematic curves, redrawn: blue for men, gold for women. They are illustrative and do not show clinical decision limits. Differences can reflect biological and analytical variation as well as lifestyle changes.

Evidence and practical limits

Human evidence

A population study of 5,117 people found age-associated IgG glycan patterns and associations with physiological measures. This supports biomarker research, rather than an individual diagnosis or a guarantee of future health. [1]

Hormones and biological context

An intervention study in 36 women showed that suppression of gonadal hormones and estradiol treatment affected the glycan age index. Results are specific to the study and do not establish lifespan extension, an anti-ageing treatment or a reason to change medication based on a test score. [2]

Analytical quality

The laboratory reports triplicate analysis and CLIA certification. Certification applies to laboratory operations; it does not by itself validate every age, disease-risk or lifestyle claim.

Age estimates have uncertainty

A reported precision of ± 1 year should not be read as proof that your true whole-body biological age is known to that precision. Repeatability, model prediction error and clinical significance are different measures.

Selected sources

1. Krištić J et al. Glycans are a novel biomarker of chronological and biological ages. *J Gerontol A*. 2014;69:779–789. doi:10.1093/gerona/glt190
2. Jurić J et al. Effects of estradiol on biological age measured using the glycan age index. *Aging*. 2020;12:19756–19765. doi:10.18632/aging.104060

WHITE-LABEL OPPORTUNITY

Your programme. Your brand. Our infrastructure.

Immune Ageing & Glycan Biology 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.

AN IMMUNE LAYER

A glycan-based view of inflammation-related ageing, from a finger-prick.

LONGITUDINAL USE

Repeat testing to follow change over time.

Immune Ageing & Glycan Biology

A glycan-based view of biological ageing.

Where Longevity Becomes Measurable.

info@bioagediagnostics.com · +45 22 70 47 24 · www.bioagediagnostics.com