

Biological age clock

An exploratory lifestyle signal from three microRNAs — explicitly not an age determination.

SAMPLE

Dried blood card,
fingertip

MARKERS

miR-21, miR-24,
miR-155

EVIDENCE

exploratory, not
diagnostic

Unlike common epigenetic clocks that evaluate DNA methylation, this clock is based on circulating microRNA.

What is analysed?

A biological clock built on microRNA

Three microRNAs are determined, normalised against miR-93, by quantitative PCR. They cover different ageing mechanisms and are combined into a single value: the percentage deviation of biological from chronological age.

Sample material and laboratory

A few drops of capillary blood from the fingertip on a dried blood card — no venipuncture, no cold chain. Analysis is carried out by our cooperation partner against more than 60,000 validated reference values.

What the method can and cannot do

The underlying model is published but declared a pilot study: in 539 people it explained about 5 % of the variance in age, with a mean absolute error of 10.4 years, and two of the three markers did not correlate significantly with chronological age. The output is therefore not a robust biological age but an exploratory signal.

LIMITS — PLEASE STATE THEM OPENLY

- No substitute for established methylation clocks (Horvath, GrimAge, DunedinPACE).
- A single value cannot be interpreted individually; it is meaningful only over time under identical conditions.
- Acute infection shifts inflammation markers — choose the timing deliberately.

The markers measured

miR-21

Inflammation and tissue remodelling

miR-24

Cell cycle and cellular senescence

miR-155

Immune regulation and metabolism

miR-93

Reference microRNA for normalisation

What the report gives you

- Deviation from chronological age in per cent, scale $\pm 20\%$ — to be read as orientation against the model error, not as a measurement.
- Calculated age in years.
- Nutrition and lifestyle scores, each on a scale up to 100.
- Recommendations on omega-3, green tea, Mediterranean diet, exercise and stress.

The workflow in your practice

- 1 Hold the consultation; document the information given and the consent obtained.
- 2 Sampling: prick the fingertip, apply blood to the card, let it dry.
- 3 Send the card to the partner laboratory in the prepared envelope.
- 4 Laboratory analysis of the genetic or epigenetic markers.
- 5 Digital report with traffic-light rating and specific recommendations.
- 6 Review and action plan; follow-up measurement after 4 to 6 months at the earliest.



Who it is for

- Longevity and functional medicine practices, as an entry and monitoring parameter.
- Health centres, coaching and workplace health programmes.
- As a compact single value where a full ageing panel would be too extensive.

PRICING AND TERMS

- B2B terms on request — tiered pricing by volume and contract model.
- Request a quotation: contact@polarisdx.net or +49 152 2858 0999.

Note: the analysis is a consultation and monitoring tool, not a medical diagnosis and no substitute for clinical assessment. Results are placed against a reference population.

