

# MethylAge

## Examples of our biological profiles

<b>FEMgen*:</b>	Sporadic breast cancer	<b>WEIGHTgen*:</b>	Weight control
<b>OSTEOgen*:</b>	Osteoporosis	<b>WELL-BEING*:</b>	Anti-aging
<b>THROMBOgen*:</b>	Thrombosis	<b>HISTAMINgen*:</b>	Histamine intolerance
<b>PROSTATEgen*:</b>	Prostate cancer	<b>OPTIMETgen*:</b>	Methylation and detoxification capacities
<b>DETOXgen*:</b>	Detoxification capacities	<b>FlorInScan Classic:</b>	Analysis of gut ecology system
<b>NEUROgen*:</b>	Neurodegenerative diseases	<b>FlorVaScan:</b>	Analysis of the vaginal flora
<b>CARDIOgen*:</b>	Cardiovascular diseases	<b>SEPTIN9*:</b>	Non-invasive screening of colorectal cancer
<b>LIPIDgen*:</b>	Lipid metabolism disorders	<b>Neurotransmitter:</b>	Stress profile
<b>DIABETOgen*:</b>	Diabetes type II	<b>Amino Acids Profile</b>	
<b>COLOgen*:</b>	Sporadic colon carcinoma	<b>Oxidative and Nitrosative stress profile</b>	
<b>ALOPECIAgen*:</b>	Androgenetic alopecia		
<b>EMOgen*:</b>	Emotional instability		

## Evaluation of your actual biological age

Feeling old too soon? Test if your Lifestyle affects your metabolism. Epigenetics is a mechanism that allows to adapt gene expression to environmental factors. Your birthday gives a chronological age, some epigenetic biomarkers may give another biological one.

This test will help change or reinforce good habits for a younger biological age.

## What is MethylAge?

Aging is a natural gradual process. However, individual aging is influenced by two major components: genetic predisposition and environmental factors/lifestyle. The genetic pre-set cannot be controlled, but choices in lifestyle can influence the individual process of aging, amongst others by epigenetics. Unhealthful behaviour (e.g. fast food, smoking, alcohol excess, insufficient sleep, excessive sunlight, etc.), mental stress and/or living in areas with polluted air are attributed to health issues and diseases. Using MethylAge, the chronological age can be compared with the actual biological age, which can be quite different depending on the life circumstances. Knowing the biological age, the actual way of living can be evaluated, reviewed and subsequently improved. An overall healthy and active lifestyle aims at positively influencing the process of biological aging and life quality (see fig. 1).

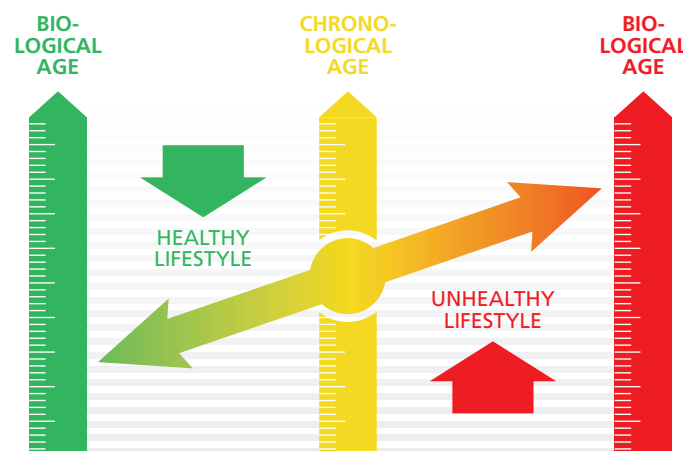


Fig. 1: Lifestyle affects biological age. Unhealthy diet and inactivity are linked to obesity and overweight, which are prevented by physical activity. Alcohol and smoking are unhealthy habits that deregulate epigenetic mechanisms causing aging. These alterations can result in diseases such as cardiovascular disease, obesity, diabetes, neurodegenerative disorders and cancer.

## Why this test and which benefit(s)?

*Make you feel better and „younger“ –  
Improvement of your biological age*

Once you detect that your biological age is worse than your actual chronological age determined by your birth date, you will know that your lifestyle might be suboptimal or even dangerous for you. Based on this, your motivation to change/improve your life will increase. Your biological age and well-being can be influenced by you. Thus, you have the power to improve and strengthen your organism. Change of your lifestyle supported by provided recommendations can help you to ameliorate your biological age and life quality – it has the potential to make you „younger“!

*Monitoring your biological age  
by follow-ups*

This test can be done as often as you want. After changing your lifestyle, your MethylAge can be measured several times as follow-up to check for improvements/alterations. This will give you the possibility to see success of your interventions, but also worsening if applicable. It is recommended to check once per year.

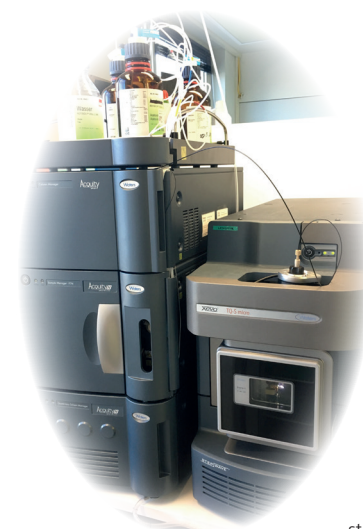


Fig. 2: Methodology:  
UPLC-MS/MS  
– respected to be  
equivalent to the Gold  
standard

## The MethylAge test

*The technical principle:*

- Nucleosides from the DNA are quantified by liquid chromatography – mass spectrometry (see fig. 2)
- The portion of 5-hydroxymethyl cytosine (5-hmC) is calculated relative to 5-methyl cytosine (5-mC) and un-modified cytosine
- 5-hmC levels decrease with age by nature, but potentially more under unhealthy conditions
- Biological age is determined by correlation of the measured 5-hmC value to respective expected age (see fig. 3).

## Who should be tested?

- Everybody who is interested in his/her biological age
- Everybody who wants to know if his/her lifestyle makes him/her younger or older from the biological point of view
- Everybody who wants to have a biological justification/motivation to change/improve life
- Everybody who wants to feel better and increase life quality

## Sample and Report

- MethylAge test can be performed several times to monitor the biological age over time (follow-up); there is no limit.
- Required sample material is EDTA blood.
- It will be determined if your biological age is in line, lower or higher than your chronological age
- Based on results, recommendations to keep or improve are provided

## Prevention

Preventive measures, if performed as early as possible, can be helpful to avoid diseases and improve life quality.

MethylAge has been especially developed by Laboratoires Réunis to evaluate the individual biological age to demonstrate if the lifestyle is beneficial. If not, this test can motivate people to change the lifestyle and living conditions.

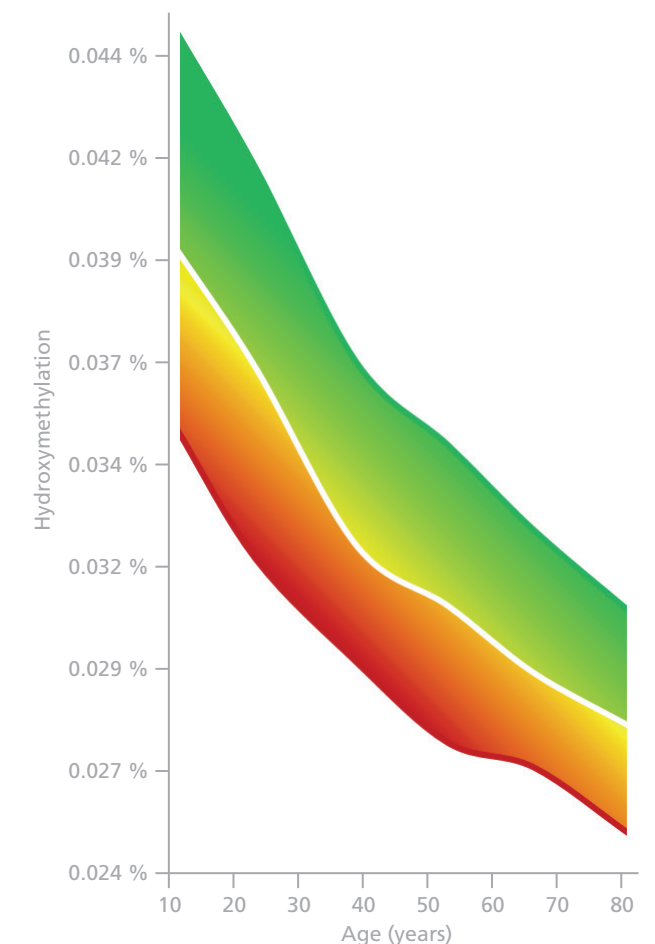


Fig. 3: Correlation of hydroxymethylation (5-hmC) and age as basis of the MethylAge. Natural decrease of 5-hmC with age, but stronger, unusual decrease upon bad lifestyle and in association with some diseases. The graph shows the average hydroxymethylation for people of different ages (white line).