



Bayer AG  
Communications  
51368 Leverkusen  
Germany  
Phone +49 214 30-1  
[www.bayer.com/en/media](http://www.bayer.com/en/media)

## News Release

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Increased access to reliable measurement of cellular aging

### **Bayer and Hurdle Announce Breakthrough in Aging Research**

Recent discovery and validation of *InflammAge*, a novel saliva-based DNA methylation biomarker for chronic inflammation

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**London, UK and Basel, Switzerland, March 13, 2025** – Bayer and Hurdle have published groundbreaking research that represents a great advancement in aging research. The research introduces and validates a novel saliva-based DNA methylation biomarker designed to quantify systemic chronic inflammation (SCI), that the researchers have named, *InflammAge*. This innovative approach provides a non-invasive method for quantifying and tracking inflammation-related epigenetic biomarkers associated with aging.

The study, titled “[A novel framework to build saliva-based DNA methylation biomarkers: Quantifying systemic chronic inflammation as a case study](#),” was conducted by a collaborative team of scientists from Hurdle, Bayer’s Consumer Health Division, and leading academic institutions, including the University of Birmingham and the University of Edinburgh. The research demonstrates how *InflammAge* can effectively help people quantify and assess the biological processes of aging, offering a reliable and non-invasive alternative to existing blood- or other tissue-based methods of measuring aging at the cellular level.

As increased age is a significant risk factor for chronic diseases such as cardiovascular disease, cancer, and neurodegenerative disorders, the ability to measure biological aging through a simple saliva test has the potential to guide and revolutionize preventative healthcare. The research, conducted on a cohort of more than 18,000 individuals known as Generation Scotland, highlights the strong association between the *InflammAge*

biomarker and various health outcomes, including all-cause mortality, lifestyle factors, and the likelihood of developing age-related diseases. Notably, in many cases, *InflammAge* outperforms traditional blood markers such as C-reactive protein (CRP) in predicting long-term health risks.

Dr. Daniel Martin-Herranz, Chief Science Officer and Co-founder at Hurdle, stated, “Our AI-powered multi-omics biomarker discovery engine has made it possible to translate complex biological data into actionable health insights. *InflammAge* represents a complete shift in how we measure and understand chronic inflammation. By developing a robust, saliva-based biomarker, we are not only advancing precision medicine but also making cutting-edge science accessible for preventative health.”

“As the global population ages, it becomes increasingly important to better understand and reliably quantify ageing at the biological level,” said Veronika Óvári, Global Senior Medical Manager, Consumer Health division of Bayer. “We are excited that through *InflammAge* a simple, non-invasive, saliva test could revolutionize self-care and how people can manage their aging journey.”

The study also indicates that lifestyle factors, including smoking and alcohol consumption, are significantly associated with *InflammAge* acceleration, while healthy eating patterns, such as regular consumption of oily fish, with *InflammAge* deceleration. This finding underscores the importance of lifestyle modifications in managing chronic inflammation and promoting overall health.

Professor Janet M Lord FMedSci, CBE, further highlighted the significance of *InflammAge*: “There are many biomarkers that relate to biological aging. *InflammAge* is novel in that it relates to one of the hallmarks of aging, namely inflammation. Changes in this biomarker will therefore give information on factors driving any acceleration in biological age, allowing therapeutic interventions to be developed.”

Professor Riccardo E. Marioni, Professor of Molecular Epidemiology of Ageing at the Centre for Genomic and Experimental Medicine, University of Edinburgh, emphasized the advantages of saliva-based testing: “Saliva samples can be easily provided at home, making them ideal for remote health monitoring. Here, we show how epigenetic patterns from saliva can be used to capture information about inflammation, a key risk factor for multiple diseases.”

[Read the full paper here.](#)

### **About Bayer**

Bayer is a global enterprise with core competencies in the life science fields of health care and nutrition. In line with its mission, “Health for all, Hunger for none,” the company’s products and services are designed to help people and the planet thrive by supporting efforts to master the major challenges presented by a growing and aging global population. Bayer is committed to driving sustainable development and generating a positive impact with its businesses. At the same time, the Group aims to increase its earning power and create value through innovation and growth. The Bayer brand stands for trust, reliability and quality throughout the world. In fiscal 2024, the Group employed around 93,000 people and had sales of 46.6 billion euros. R&D expenses amounted to 6.2 billion euros. For more information, go to [www.bayer.com](http://www.bayer.com).

### **About Hurdle**

Hurdle is pioneering the future of AI-enabled diagnostics, redefining how biomarkers and diagnostics are discovered, developed, and scaled. Our platform seamlessly integrates multi-modal data, AI-powered insights, and software-driven automation to accelerate innovation—delivering diagnostics 10x faster, more cost-effectively, and with unparalleled precision. With end-to-end capabilities spanning biomarker discovery, clinical validation, regulatory compliance, and global deployment, Hurdle empowers leading Pharma, Biotech, Healthcare, and Diagnostics companies. By simplifying complexity and standardizing infrastructure, Hurdle ensures that breakthrough diagnostics reach patients faster, transforming precision medicine at scale.

Contact for media inquiries:

**Bayer: Jeffrey Donald, phone +41 79 907 7111**

Email: [jeffrey.donald@bayer.com](mailto:jeffrey.donald@bayer.com)

Hurdle: [press@hurdle.bio](mailto:press@hurdle.bio)

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