

Applicant

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Project Title

Measuring healthy aging through epigenetics

Project Summary

As we age, levels of cells and molecules commonly associated with inflammation increase in the body. This phenomenon, coined "inflammaging", is a natural process that occurs in everyone, although for those that are less healthy as they age, inflammaging can be much greater. When inflammaging is greater, so is the likelihood of developing chronic conditions, being hospitalized for an infectious disease, or dying at a relatively young age. Frailty, a complex syndrome that represents one's overall health status, is also associated with inflammaging, and is a major determinant of longevity and well-being. We have developed an innovative measure called the "epigenetic inflammaging score (EIS)", which not only increases with age, but is associated with one's current and future health. Using the CLSA, we propose to validate the EIS and known epigenetic "clocks" and explore their relationship with important sociodemographic, health and lifestyle factors.

Keywords

Inflammation, DNA methylation, Frailty, CRP, Healthy aging, Epigenetic clock