NOVEL EPIGENETIC CLOCK FOR LIFESPAN AND HEALTHSPAN

TECHNOLOGY DESCRIPTION

To address issues of healthspan as individuals age, there is a critical need for biomarkers that track changes with lifespan. "Clocks" based on machine-learning models of changing DNA methylation patterns have recently become state-of-the-art techniques for detecting these aging-associated changes. However, how these epigenetic clocks operate and what aging-associated biology they are tracking has been unclear. Recent data from the Verdin lab has shown that most epigenetic clocks are strongly associated with changes in immune cell composition, leading to a concerning possibility that epigenetic clocks may be confounded by non-aging-related factors such as minor infections. This invention is a novel epigenetic clock, the first of its kind that is resistant to changes in immune cell composition, creating a more robust biomarker for disease prognosis or tracking the success of aging interventions.

APPLICATIONS

- Improved screening tool for tracking healthspan metrics in patients
- More accurate way of tracking the success of aging interventions for drug/therapy developers
- New platform for development of novel senolytics

PATENT STATUS

Provisional patent application filed

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