

**The Impact of *Rhodiola rosea* on Lifespan and Healthspan:
From Fruit Flies and Mice to Humans**

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Over the past 18 years, our research laboratory at the University of California, Irvine has been dedicated to the development and validation of an algorithm for screening, identifying, and assessing botanical extracts with potential anti-aging properties. We have employed *Drosophila melanogaster* and mice as our primary model systems. Within this body of work, *Rhodiola rosea* has emerged as an exceptionally promising botanical candidate. Our investigations have encompassed assessments of *Rhodiola rosea*'s influence on lifespan, healthspan, the microbiome, and diabetes-related biomarkers. Furthermore, we have delved into the mechanism of action of this plant, examining its effects on various aging pathways, including those involving sirtuins.

In parallel with our research efforts, we have also collaborated closely with farmers in Alaska, USA, to support the enhancement of their *Rhodiola rosea* harvests. In this presentation, I will provide an overview of our 18 years of research on *Rhodiola rosea*, as well as our upcoming endeavors to investigate its impact on human health biomarkers.