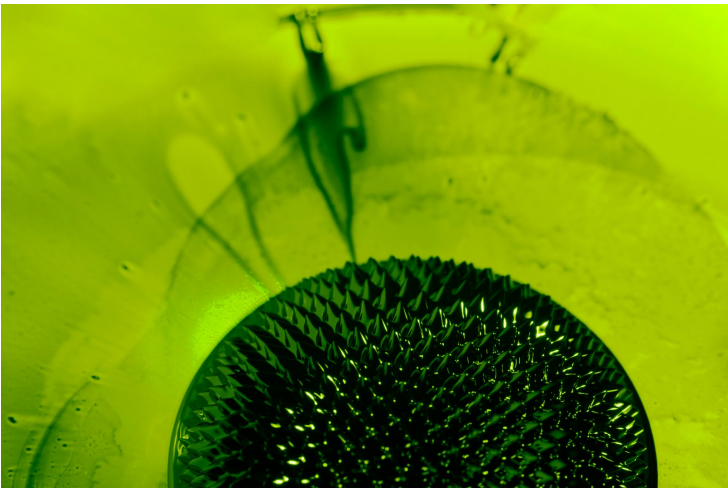


## Ayana Bio unveils first ever botanical ingredients by cell culture technology

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Boston headquartered Ayana Bio has launched its first-ever plant cell-cultivated lemon balm and echinacea health and wellness ingredients, starting with the U.S. market. The method is believed to provide organic botanicals, a non-GMO plant powders without conventional agriculture supply chain concerns. Ayana Bio is a pioneer in plant cell technology making sustainable bioactive composition of conventionally grown botanicals out of the agriculture methodologies.

Plant cell cultivation avoids traditional production challenges while yielding the identical molecular composition and the same health and wellness benefits as agricultural counterparts and can be tailored to even higher concentrations of bioactives. These plant cell-derived ingredients are DNA-fingerprint certified and clean label, with standardized phytocomplex, increased bioavailability, full traceability and a neutral taste and color.

In the novel methodology plant cells are propagated from authenticated plants and are assessed to identify the ideal line for important characteristics like bioactive potency, composition and stability. Ayana Bio further optimizes the conditions and nutrients the plant cells need to grow and multiply. Unlike some plants that take years to grow and mature in the ground, plant cells are fully propagated and harvested as an ingredient in just a few weeks. Rather than using photosynthesis to convert sunlight into food, plant cell culture companies feed sugars, hormones, and other nutrients to plant cells.

In addition to echinacea and lemon balm, Ayana Bio also works on saffron, cacao, and blueberries to produce bioactives similar to those found in conventionally grown lemon balm and echinacea, which support sleep, mood, and immunity. As a

spin-off of synthetic biology specialist Ginkgo Bioworks, Ayana Bio has raised \$30 million from Viking Global Investors and Cascade Investment Group to make high-value ingredients from plant cell lines in bioreactors in 2021.

Frank Jaksch, chief executive officer of Ayana Bio said "Bringing plant cell-derived health and wellness ingredients to these markets will help CPGs access the full spectrum of bioactives characteristic of these plants without the supply chain challenges. Consumers are seeking out products for healthier lifestyles and a healthier planet."

Effendi Leonard, chief technology officer of Ayana Bio. "Plant cell technology is creating a sustainable future of standardized botanical ingredients. We're proud to be the first to commercialize the products of this technology for health and wellness in these key markets."

The availability of plant-derived health and wellness ingredients in these markets will enable CPGs (consumer packaged goods companies) to access the full spectrum of bioactive compounds inherent to these plants.