

NemaLife Unveils BioSēq™ to Decode Bioactive Mechanisms and Fast-Track Ingredient Innovation

NemaLife launches BioSēq™, a transcriptomics-powered engine to decode bioactive mechanisms to accelerate and validate functional ingredients for human health.

LUBBOCK, TX, UNITED STATES, June 5, 2025 /EINPresswire.com/ -- NemaLife Inc., a leading AI-powered platform company transforming the discovery of functional ingredients through model organism and microfluidic automation, proudly announces the launch of BioSēq™, a next-generation transcriptomics platform that maps the molecular fingerprint of nutritional

bioactives to key human health outcomes. This milestone builds on the company's momentum from last year's launch of the [Discovery Flywheel™](#), a 6-in-1 fast in vivo validation platform for bioactive efficacy across six health indications.

BioSēq™ uses the Nobel-prize backed *C. elegans* model that has 60-80% genetic similarity with humans, and delivers mechanistic depth to complement the high-throughput phenotypic power of the Discovery Flywheel™. While the Flywheel measures bioactive efficacy across six conserved health axes— gut health, stress resilience, metabolic health, cognitive performance, muscle health, and longevity—BioSēq™ elucidates the underlying gene expression changes and signaling pathways involved.

"With the Discovery Flywheel™, we proved that multi-dimensional health outcomes can be rapidly screened in a whole-organism context. Now, with BioSēq™, we are illuminating the mechanisms that drive these outcomes," said Dr. Siva Vanapalli, CEO of NemaLife. "Together, these platforms enable a powerful discovery loop that closes the gap between screening and scientific validation of nutritional bioactives for human health."



Built on high-throughput RNA-sequencing, human orthologs, clinically validated bioactives, curated proprietary gene data sets for specific health benefits, and AI-powered analytics, BioSeq™ enables:

- Identification of differentially expressed genes following exposure to bioactives
- Pathway enrichment analysis tied to health indications
- Prioritization of ingredient combinations based on synergistic transcriptomic profiles

This paired approach—phenotype + transcriptome—offers unmatched speed, biological relevance, and scalability for ingredient companies seeking to innovate or reposition products with scientific credibility.

“BioSeq™ strengthens our partners’ ability to develop health-forward claims by providing mechanistic evidence aligned with consumer-relevant outcomes,” added Dr. Vanapalli. “In an industry increasingly demanding proof over promise, we are helping brands deliver both.”

NemaLife has collaborated with global companies across the dietary supplement, functional food, and ingredient innovation sectors. The integration of BioSeq™ and the Discovery Flywheel™ has already revealed promising bioactive candidates for metabolic health and healthy aging, and stress resilience with patentable claims.

To explore partnership opportunities or learn how BioSeq™ and the Discovery Flywheel™ can advance your bioactive ingredient innovation, visit www.nemalifeinc.com or contact us at info@nemalifeinc.com.

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