



The New Standard in Product Development

Every year, Earth's finite resources are spent on outdated, decades-old technologies to drive discovery and innovation in functional ingredients.

We build sustainable solutions.

NemaLife is a TechBio company accelerating the pace of ingredient discovery and development using proprietary high throughput technologies.

We partner with companies that care about delivering safe, healthy, and sustainable products by leveraging our innovative platforms to unlock transformative business potential.



TOP MARKETS WHERE WE DELIVER COMPETITIVE EDGE



Functional Foods



Dietary Supplements



Sports & Nutrition



Animal and Pet Nutrition

One Architecture

Multiple Platforms

We build our platforms harnessing advances in microfluidics and AI

TechBio is an emerging paradigm that combines different engineering solutions to drive data-driven discovery. Using this paradigm, we created a universal layered architecture that enables multiple-AI-assisted microfluidic platforms.

Each platform incorporates patented microfluidic chips designed to fit market-specific needs. Technology layers, including machine vision, deep neural networks, edge computing, and cloud databases, are seamlessly woven to create fluidic discovery engines.



Microfluidic
Automation

+



AI-Driven
Computation



nemalife
THE NEW STANDARD IN PRODUCT DEVELOPMENT

ORGANISM-ON-CHIP

Our most advanced
platform

Organism-on-Chip Platform

Human relevancy combined with speed and efficiency

We use the planet's best-studied organism to deliver human-relevant biological data.

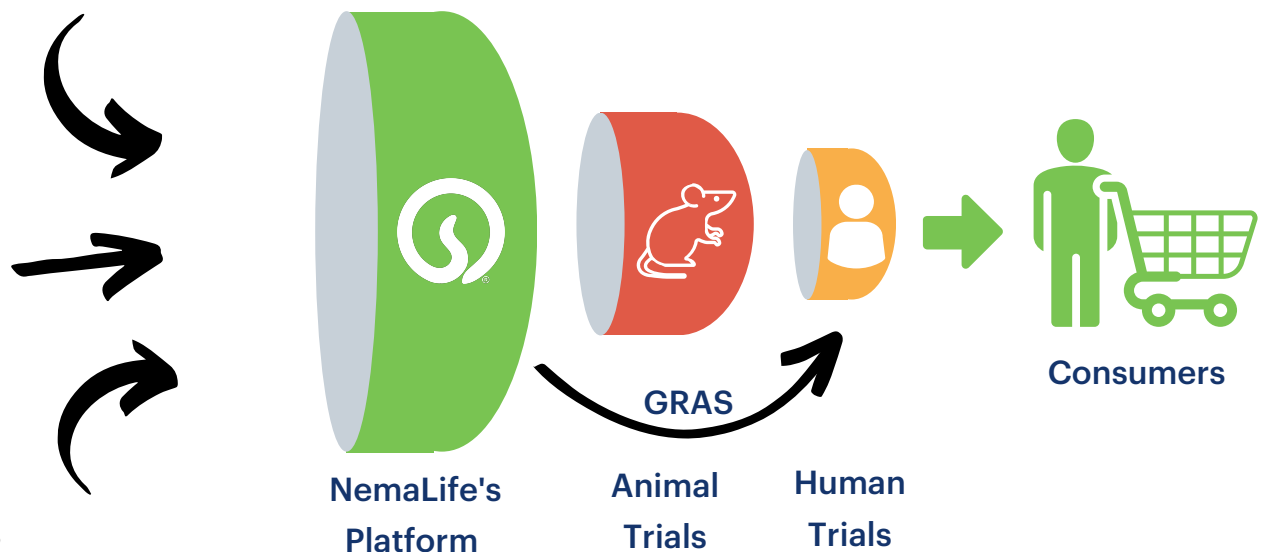
We know more about the biology of the worm *C. elegans* than any other animal on the planet.

This invertebrate approach helps us to move towards cruelty-free products.

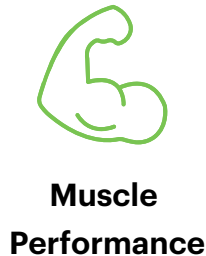
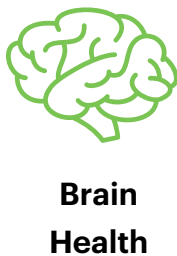
WE SCREEN MANY INGREDIENT CLASSES

Amino acids
Prebiotics
Probiotics
Postbiotics
Dietary Proteins
Botanicals
Vitamins
Collagens
Sweeteners
Marine ingredients

OUR ORGANISM-ON-CHIP TECHNOLOGY BYPASSES INDUSTRY ROADBLOCKS FOR PRODUCT DEVELOPMENT



KEY PRODUCT HEALTH CLAIMS THE PLATFORM DELIVERS



Proven Translatability for Human Health

***C. elegans* biology is highly conserved with humans, providing a translatable framework for predicting the effects of new ingredients on human metabolism and physiology. The three organs with the most conserved biology are the gut, muscle, and nervous system.**

PRECLINICAL MODEL BACKED BY YEARS OF ACADEMIC & FDA-LED RESEARCH

Key areas of translatable human biology

- Metabolism
- Neurobiology
- Host-microbiome interactions
- Muscle physiology
- Developmental biology
- Aging and healthspan



6
Nobel
Laureates



10+
Space
missions



900+
Longevity
Compounds



2,000+
Papers
per Year

Center for Food Safety and Applied Nutrition

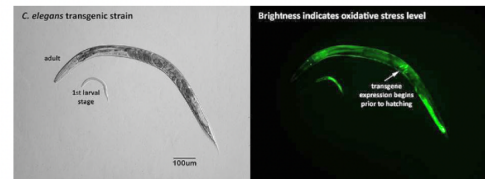
Toxicity tests using *C. elegans*: assessment of usefulness for regulatory purposes

Caenorhabditis elegans (*C. elegans*) are microscopic, non-pathogenic roundworms with specialized cells and tissues that function in ways that correspond to vertebrate organs. Given that many genetic and cellular pathways involved in organismal development, neuronal architecture and function, and toxic mode of action are conserved from worms and humans, this tiny invertebrate species may prove useful for predictive toxicity testing.

The three-day lifecycle of *C. elegans* and ease of maintenance indicate that the model could provide fast and inexpensive data to inform safety assessments, but only if specific assays can be demonstrated to provide results that correspond to human toxic responses. Using chemicals with clearly defined mammalian toxic effects, FDA is currently evaluating previously developed *C. elegans* toxicity assays for their capacity to produce correlative responses to developmental and reproductive toxins.

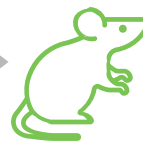
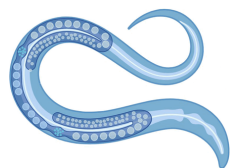
FDA is also developing higher-throughput test methods for other endpoints, such as neurotoxicity, epigenetic toxicity, and oxidative stress. These efforts will contribute to our understanding of the accuracy and fit-for-use categories for *C. elegans* toxicity testing and its usefulness to prioritize those compounds that may not need extensive animal testing.

Figure 1: Rapid testing for oxidative stress response using *C. elegans*



INDUSTRY USE CASES SHOWING TRANSLATABILITY

ADM's weight management Probiotic BLP1 was obtained from a *C. elegans* screen and was found to be translatable to rodents and confirmed in clinical trials



Amazentis developed a nutritional supplement Urolithin A that improved muscle function with age in *C. elegans* and mice. Clinical trials confirmed that Urolithin A enhances muscle function in the elderly.

The NemaLife Advantage



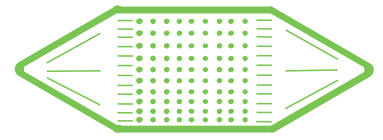
3R Compliant

Reduce the reliance on mice and move towards cruelty-free products



Rapid Data, Less Cost

Studies can be completed in months instead of years at a fraction of the cost



Dynamic Environment

Unlike any other platform, we can easily adjust feeding and treatment conditions as needed



Multiple Health Claims

Our platform is capable of parallel discovery of product health benefits instead of serial evaluation



High Statistical Power

Our studies include at least ten times more subjects than traditional experiments



Minimal Ingredient Usage

Studies use milligrams of ingredients instead of grams in traditional approaches



DEA Registered

DEA Registered facility for controlled substances, schedule 1 to 5

ESG BENEFITS

900K+



Laboratory Mammals Saved

72K+



Tonnes CO₂ Emission Reduced

18B+



Watts of Energy Saved

1.5M+



Liters of Water Saved

We transform ingredients into revenue-generating assets

3+

Ingredients in clinical trials

400+

Ingredients and products tested

25+

Partnership Engagements

Who we work with



"In our view, NemaLife gets the "best new partner" award. We are so thankful to have found them."

Greg Bonfilio
Co-CEO



"NemaLife has been highly responsive and innovative in helping us define studies to investigate the behavior of our new products in development. I feel we can call on NemaLife whenever we need to."

Michael Lelah
CSO



What Our Partners Say About Us