



InVirtuoLabs and Nagi Bioscience partner to integrate whole-organism data into AI drug discovery

The collaboration will combine AI-driven molecular design with automated *C. elegans* testing to assess drug candidates' biological effects earlier in discovery.

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InVirtuoLabs and Nagi Bioscience today announced a partnership to integrate experimental data from living organisms into AI-driven drug discovery. The collaboration will combine InVirtuoLabs' molecular design platform with Nagi Bioscience's automated *C. elegans* testing technology, helping researchers assess how drug candidates affect biological systems beyond their molecular targets. The partnership aims to connect AI-generated predictions with experimental evidence of efficacy, toxicity and whole-organism response, and to feed these results back into the design of each new round of molecules. By incorporating these insights earlier in discovery, the companies seek to support better-informed decisions about which molecules to advance.

AI tools can accelerate the design of molecules with specific properties, but molecular and cell-based results alone do not capture the complexity of a living organism. The collaboration will add a complementary layer of biological evidence using *Caenorhabditis elegans*, a microscopic nematode widely used in biomedical research.

Nagi Bioscience will contribute its experimental models and high-content phenotypic data generated through SydLab™ One. *"AI can now design more drug candidates than any team can test, and the bottleneck has moved to biology. Nagi's role is to help AI design-test-learn loops perform better and converge faster by plugging standardized whole-organism data into the equation,"* said Matteo Cornaglia, CEO and co-founder of Nagi Bioscience. The fully automated platform combines microfluidics, robotics, imaging and AI-driven analytics to measure, explain and predict how compounds affect living organisms at scale. *"In this collaboration, we are proving how the combined expertise of InVirtuoLabs and Nagi Bioscience supports faster and safer decisions about which molecules have the potential to move forward,"* he added.

InVirtuoLabs will bring its proprietary AI and molecular modeling capabilities to the collaboration. Integrating Nagi's experimental data is intended to extend the platform's assessment of drug candidates beyond molecular and target-level properties to measurable systemic biological outcomes. *"AI-driven drug discovery will advance fastest when models learn not just from existing data, but from the biological outcomes of their own predictions. By integrating Nagi's whole-organism data into our design*

loop, we are connecting molecular design with biological reality,” stated Gianvito Grasso, CEO of InVirtuoLabs.

The partnership aims to advance biomedical and pharmaceutical research by connecting AI-driven molecular design with scalable whole-organism testing, laying the groundwork for discovery approaches that account for efficacy and toxicity earlier in drug development. Together, the companies seek to narrow the gap between computational drug design and observed biological response, strengthening the evidence available during early drug discovery.

About InVirtuoLabs

InVirtuoLabs is an AI-native drug discovery company. The company is built on a proprietary platform that combines AI and molecular modeling to design entirely new molecules. The platform is powered by InVirtuoGEN, a state-of-the-art foundation model for chemistry that outperformed NVIDIA's GenMol in a peer-reviewed study. InVirtuoGEN is already powering InVirtuoLabs' proprietary pipeline, where two assets have advanced into lead optimization. The technological platform has proven it can deliver molecules that engage their pharmacological targets and are effective in cell lines. This approach doubles success rates compared to conventional research methods while drastically cutting the two numbers that define the industry: a cost of over \$2 billion per drug and an average development time of 12 years.

With \$10M raised in 18 months, a collaboration with Helsinn and a spot among the Top 100 Swiss Startups 2026 nominees, InVirtuoLabs is on track to bring a drug candidate to the preclinical stage faster than any company before it, positioning itself as Europe's most promising emerging player in AI-driven drug discovery.

For more information, visit www.invirtuolabs.com

About Nagi Bioscience

Nagi Bioscience is a Swiss biotools company developing automated in vivo testing solutions to accelerate the discovery and validation of drug candidates and health-promoting interventions.

Its proprietary Organism-on-Chip platform, SydLab™ One, combines microfluidics, robotics, advanced imaging and AI-driven analytics to measure, explain and predict how candidate compounds affect *C. elegans* models, including their effects on biological age, lifespan and healthspan, as well as their efficacy and toxicity. The platform also supports integrated workflows connecting phenotypic screening with downstream molecular analysis.

Founded in 2019 as an EPFL spin-off, Nagi Bioscience has raised over CHF 14 million from Swiss and European investors. SydLab™ One has been on the market since 2023 and is used by biopharma, nutrition and academic teams in Europe, North America and Asia.

For more information, visit www.nagibio.ch

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