

Wisconsin-based Biotech Company InvivoSciences, Inc. Awarded NIA/NIH Contract to Combat Aging Pathologies

The Development of Mechanism-based Adult Stem Phenotypic Cardiotoxicity Screening with Human 3D Heart Tissues



Madison, Wisconsin Sep 19, 2022 ([IssueWire.com](https://www.issuewire.com)) - InvivoSciences, Inc., a Madison-based preclinical stage biotechnology company, has received a Small Business Innovation Research (SBIR) contract from the National Institute on Aging (NIA), part of the National Institutes of Health (NIH).

The funding will advance the preclinical program at InvivoSciences, Inc., for heart failure among an aging population using a combination of AI-driven patient stratification and a personalized therapy approach. The amount of \$349,999 is under contract 75N95022C00019.

"We look forward to advancing the development of fundamental technologies of a precision medicine approach in heart failure," said Tetsuro Wakatsuki Ph.D., co-founder, and chief scientific officer, InvivoSciences, Inc.

Elderly patients are the major consumers of prescription drugs, and many of them use multiple drugs simultaneously. In addition, heart failure remains the most common diagnosis among patients ≥ 65 years of age. On average, heart failure patients take 6.8 prescription medications per day, resulting in 10.1 doses a day. Despite the skewed demographics of prescription drug consumers, preclinical safety and efficacy studies use samples that represent healthy and young adults. Therefore, there is a significant knowledge gap between existing pharmacology data of healthy/young adults and older patients or patients with chronic diseases such as heart failure.

Adverse cardiac effects are among the most cited reasons for FDA-approved drug withdrawal or failure to develop a novel compound beyond initial discovery, even among those with promising on-target effects. In the meantime, there are no reliable and validated in vitro cells or engineered tissues of aging to analyze pharmaceuticals at the preclinical stage. Therefore, developing cost-effective, yet highly predictive models of aging hearts is the highest priority among various aging-in-a-dish systems. "I am excited that we were selected for this highly competitive contract by the National Institute on Aging," said Ayla Annac, co-founder and chief executive officer of InvivoSciences, Inc.

InvivoSciences will use the funds to focus on the development and validation of an in vitro pharmaceutical analysis platform with human heart-in-a-chip, NuHeart™, which recapitulates the aging heart in vitro and measures cardiac contractility, tissue stiffness, calcium transients, action potentials, and metabolic activities, including mitochondrial membrane potential. The work will establish a platform for high content, high throughput aging human heart-in-a-chip based compound analysis and a screening platform for analyzing pharmaceutical safety and efficacy in the aging population.

"The United States continues to be at the forefront of biomedical innovation, technology, and business due to immigrant founders and leaders like Ms. Annac who is determined and, persevering even in the most challenging circumstances, especially during the COVID-19 period," said Dr. Wakatsuki. "We have, slowly but steadily, generated technological foundations that are necessary to develop precision heart failure therapies," he added.

About InvivoSciences, Inc. InvivoSciences (IVS) is a Madison-WI-based preclinical stage biotechnology company developing therapies for unmet clinical needs with a focus on cardiovascular and cardiometabolic diseases. Our innovation is utilizing its predictive precision medicine development technology platform, Kokordia™, combining patient-derived micro heart on a chip, NuHeart™, AI-assisted patient-stratification diagnostic technology, and automated instrumentation for precision medicine development. IVS201 is our first drug candidate targeting heart failure with preserved ejection fraction (HFpEF). Heart failure, such as HFpEF, is a complex disease with different subgroups, where patient-stratification is the key to advancing a targeted therapy in ever-challenging heart failure drug development.

For more information about our vision and mission to help patients globally, our pipeline, and technology please visit www.invivosciences.com or follow us on

Media Contact

invivosciences, Inc

aannac@invivosciences.com

Source : InvivoSciences, Inc.

[See on IssueWire](#)