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Insilico, Elevian to discover anti-aging drugs

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Two longevity biotechnology companies partner to discover drugs that target aging



On the final day of the largest biotechnology and pharmaceutical partnering week at the Juvenescence Longevity Showcase two leading longevity biotechnology companies, Elevian and Insilico Medicine announced a research and development partnership to develop oral medications targeting the GDF11 pathway and associated targets. Elevian is an emerging biotech company developing medicines that restore youthful regenerative capacity, with the potential to treat and prevent the diseases of aging. Its first target is the GDF11 pathway. Insilico Medicine is an Artificial Intelligence (AI) company developing an end-to-end pipeline for automated target identification, small molecule generation, prediction of clinical trials outcomes and aging research. It is a leader in the fields of deep learning for drug discovery, biomarker development, and anti-aging interventions. The collaboration will take advantage of Insilico's generative adversarial networks (GANs) and reinforcement learning (RL) AI technologies to discover novel small molecules that target the GDF11 pathway, which has been demonstrated to play an important role in aging and age-related disease.

"We are excited to partner with Insilico Medicine," said Mark Allen, MD, CEO of Elevian. "Not only will we leverage Insilico's advanced AI technology to accelerate drug development, but we also share a common mission: to eliminate age-related disease and promote healthy longevity."

"We are looking forward to working with Elevian. GDF11 is an exciting pathway and Elevian's scientists are world leaders in this field coming from Harvard and other prestigious institutions. Their management has a solid vision and is committed to doing great research and turn it into the life-saving products in record time," said Alex Zhavoronkov, PhD, founder and CEO of Insilico Medicine

In order to succeed in this endeavor, the companies will utilize state of the art techniques in AI-enabled drug discovery. Based on biological and structural target data from Elevian, Insilico will identify small molecules that produce the intended biological actions utilizing deep learning technology. Starting out with existing libraries of compounds and molecular building blocks, based upon iterations of virtual and biological screenings, the scientists will narrow down the list of potential candidates. Subsequently, based on the results of previous iterations, Insilico will also provide a selection of novel de novo compound candidates, which will be synthesized by WuXi AppTec, a leading global pharmaceutical contract research and manufacturing organization. Using this approach, Insilico and WuXi have recently discovered novel small molecules for challenging targets.

"My fund, BOLD Capital Partners, is a proud investor in both Elevian and Insilico. This partnership perfectly illustrates the convergence of biotechnology and AI, which together are shaping the future health of humanity," said Peter Diamandis, MD, Founder and Chairman of the XPRIZE Foundation and Partner at BOLD Capital Partners.

"We are in the middle of a biotechnology revolution," said Jim Mellon, Chairman of Juvenescence Limited and investor in Insilico Medicine. "Within most people's lifetimes, the developments in the longevity biotechnology sector will allow us to live increasingly long and healthy lives, and provide one of the best investment opportunities ever."

Insilico Medicine is an artificial intelligence company with R&D offices and resources in the US, Belgium, Russia, the UK, Taiwan, and Korea, sourced through hackathons and competitions. The company and its scientists are dedicated to extending human productive longevity and transforming every step of the drug discovery and drug development process through excellence in biomarker discovery, drug development, digital medicine, and aging research while Elevian is an emerging biotech company developing medicines that restore youthful regenerative capacity, with the potential to treat and prevent the diseases of aging. Elevian's scientific founders, working at the Harvard Department of Stem Cell and Regenerative Biology, discovered that replenishing the circulating factor GDF11 can regenerate the heart, brain, muscle and other tissues. Elevian has acquired exclusive, worldwide rights to Harvard's patent portfolio concerning circulating factors that regulate aging.