In Silico Medicine Inc. Launches in the US to Use Advances in Technology to Combat Aging and Age-related Diseases

Independent Biomedical Research Firm Unites Science and Personalized Medicine For Patient-driven and Goal-oriented Applied Aging Research

Baltimore, MD (PRWEB) March 06, 2014 -- In Silico Medicine Inc, developing novel computer-assisted methods for drug discovery in aging research, has officially launched in the US. In Silico Medicine draws on years of research and software development expertise of its partner, Pathway Pharmaceuticals in Hong Kong, which employs its state of the art OncoFinder platform to select and rate personalized cancer therapies, and identify new drug candidates in oncology.

Population aging is one of the major internal threats to the economies, cultures and social structures in developed countries. Increasing productive longevity of the working population may not only be the major new source of economic growth, but the only altruistic way to save the debt-laden economies from collapsing. And while aging is a very complex multifactorial process that cannot be stopped or reversed by a simple combination of drugs, the pharmaceutical industry needs a platform to screen and predict the effectiveness of possible aging-suppressive drugs in a high-throughput environment to at least slow some of the aging processes.

One of the reasons why pharmaceutical companies failed to develop business models for increasing productive human longevity is because human lifespans are much longer than that of the many model organisms and it takes decades to evaluate the effects of any drug. Some of the known drugs have been on the market for many decades and only recently scientists started finding clues to their oncoprotective, cardioprotective and geroprotective effects. Moreover, many drugs that work on model organisms including mice do not have the same effects in humans. There is an urgent need for intelligent systems that will cost-effectively predict the effectiveness of the many drugs on the population, but also on the individual levels.

“We built our platform on years of experience of a large international team who specialize in using gene expression data from individual patient’s tumor to predict the effectiveness of targeted compounds and improve clinical decision making. We are reinventing this system for drug discovery in cancer and aging,” said Alex Zhavoronkov, PhD, the CEO of In Silico Medicine. “The recent wave of startups looking to employ big data to find solutions for aging, including the Google’s Calico and Human Longevity, should give everyone hope that we may see the time when both the medical institutions and pharmaceutical companies will start saving lives so every human being on the planet will benefit.”

Some of the ideas behind the company’s drug discovery platforms for both cancer and aging are rather simple: analyze the genetic and epigenetic profiles of young and normal cells, run computer simulations to see what drugs make the old or malignant cell get as close to the norm as possible and then validate the results on human cells and model organisms. The same approach may be employed to personalize the drug regimen for individual patients. The core expertise of In Silico Medicine is in all-inclusive gene expression analysis and development of various algorithms that minimize the difference between the “young” and “old” signaling pathway activation profiles, and they are actively adding new modules that can be used with the drug databases. These include microRNA, methylation and proteomics modules among others.

About In Silico Medicine Inc
Since 2008 the research team behind In Silico Medicine has worked hard to develop the most comprehensive scalable drug knowledge management system of annotated drugs, small molecules, biologics and all other factors that may influence the many events on the molecular, cellular and tissue levels. The company uses their expertise in targeted drug selection based on individual patient’s gene expression data and signaling cloud regulation for drug discovery in oncology and aging. The longer term goal of In Silico Medicine is to partner with the top pharmaceutical companies to help analyze their drug databases and lead compounds, improve enrollment into clinical trials, and to enable them to accurately predict the efficacy of their drugs on patient groups and individual patients. For more information, please visit http://www.insilicomedicine.com

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