

## Can AI Help With Drug Discovery?

---

A UAE-backed, Hong Kong-based pharmaceutical company has made a major breakthrough in the field of AI-aided drug development. Insilico Medicine, which has its headquarters in Hong Kong but has a research institute in the Emirati capital and is supported financially by the Abu Dhabi Investment Office, is in the process of creating a new drug to treat idiopathic pulmonary fibrosis.

The chronic condition has a debilitating effect on the respiratory system, causing scarring of the lungs and severe difficulties when breathing. The drug is now entering a Phase II 12-week trial, with dozens of patients expected to be recruited from the USA and China to participate. As an AI-boosted treatment, it represents a significant milestone in the use of the technology in the pharmaceutical industry.

### Streamlining and saving

The process of bringing new drugs to market is notoriously long and prohibitively expensive. In order for a new product to be passed fit for human consumption and deemed effective in its purpose, it must pass through numerous stages of preclinical trials, before several more of being tested on willing subjects. This can take many years and cost hundreds of millions of dollars to complete.

However, the remarkable advances in technology that have been made in recent years – particularly in the field of AI – could help save both time and money. By trawling through vast amounts of data, AI can further our understanding of how certain diseases and conditions function, as well as how the body's genes react to them and which proteins should be targeted in order to combat them.

What's more, AI can also be put to good use in running computer simulations of how clinical trials are expected to unfold, better predicting outcomes and reducing the need to pursue so many different avenues of research. This is crucial in cutting down on waiting times and trimming expense sheets, thus making medication and treatment more affordable and accessible for everyone.

### “A major milestone”

The work being undertaken by Insilico Medicine has proven to be hugely encouraging in the preclinical trials conducted to date. Not only has it demonstrated efficacy in combatting idiopathic pulmonary fibrosis, but it has also displayed impressive anti-inflammatory properties, meaning it could represent another option for patients. Those positive indications have been replicated in Phase I clinical trials, with Phase II incarnations now underway.

“When we started developing generative AI for drug discovery, I never expected to see the clinical and preclinical results we have today,” [explained Dr Alex Zhavoronkov](#), founder and CEO of Insilico Medicine. “Initiating Phase II trials with this novel inhibitor for IPF represents a major milestone for deep generative reinforcement learning in drug discovery.”

The UAE is proud to be supporting this important research with substantial funding from the Abu Dhabi Investment Office. However, it’s not just a question of money which makes the UAE an attractive place to conduct AI trials; the state-of-the-art infrastructure and world-beating talent mean that the country is deserving of its reputation as a global hub for progressive medicine.