AI-discovered drug could help 1.6 million Americans with inflammatory bowel disease

Inflammatory bowel disease (IBD) impacts 1.6 million people in the U.S. — and a new artificial intelligence-generated drug could help alleviate symptoms.

Insilico Medicine, an AI-driven biotech company based in Hong Kong and in New York City, recently announced that its new AI-designed IBD drug — ISM5411 — has entered Phase I clinical trials.

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If approved, it would be the first medication to treat IBD by blocking prolyl hydroxylase domain (PHD), a protein that regulates the body's gut barrier protection genes, according to Alex Zhavoronkov, PhD, founder and CEO of Insilico Medicine.

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"Our AI platform designed a number of possible molecules to meet our criteria, and ranked them, and our R&D team synthesized and tested a number of these before selecting ISM5411 as the most promising candidate," said Zhavoronkov.

An oral medication, ISM5411, is described as "intestinal restrictive," which means it only works on the gut without impacting other parts of the body, he noted.

"Very importantly, it promotes mucosal repair," said Zhavoronkov.

"In other words, we designed this drug to help restore the normal functioning of the gut."

Previous research has shown that mucosal repair is effective in reducing hospitalization and improving long-term prognosis for IBD patients.

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