

Designer bacteria can make your gut healthy, and your poop glow

Biologists at the Massachusetts Institute of Technology have created a genetically modified version of a common bacteria found in the gut that can sense the environment there and fight disease. And when this designer bacteria works, the proof is in the poop — glowing poop. (In this case, mouse poop.)

We wanted to equip this bacteria with the ability to do new things, like turn on the production of therapeutic molecules or sense disease inside guts, said Timothy Lu, a biologist and senior author on the study. The designer bacteria is modeled after a common gut bacteria called *Bacteroides Thetaiotaomicon*.

In the past, clinical studies and lab experiments made use of manmade modified bacteria, like [E. coli](#) and [Listeria](#), to deliver medicine to treat cancer or [obesity](#). But E. coli and Listeria have a downside. They're cleared from the body rapidly. *Bacteroides thetaiotaomicon* is already highly abundant in the human gut, meaning that an altered version of this bacteria designed for therapeutic treatment would last longer within the intestines. This designer bacteria, in other words, could play an important role in drug treatment.

But to monitor whether it was working, Lu's team had to see the results first.

To do that, they used a technique called bacterial conjugation to insert a gene called luciferase that codes for fluorescence into the gut bacteria's genome.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis. Read full, original post: [Biologists manufacture bacteria that may one day treat an unhealthy stomach](#)