Synthetic biology innovations that rewire human cells poised to tackle complex diseases

Let’s recognize that synthetic biology can make the impossible happen in many areas besides food production.

For example, synthetic biology can produce renewable fuels and manufactured goods and assist bioremediation efforts. All these applications help sustain the planet’s health. But what about *our* health?

It happens that synthetic biology is poised to improve our health in myriad ways, not the least of which involves the administration of novel therapeutics. Some of these therapeutics take a direct approach. They rewire the signaling pathways of human cells. But some of these therapeutics take an indirect approach. They target our microbiomes.

Developers of synthetic biology therapeutics have scored several firsts with microbiome-modifying drug candidates: the first therapeutically engineered colonizing gut bacteria has been evaluated in humans; the first gut-based approach using an engineered bacteria has been shown to induce a clinically relevant change in a systemic measure of disease activity; the first CRISPR medicine has been shown to have an impact on gut disease.

These firsts demonstrate that synthetic biology is breaking drug development barriers and preparing the way for many more therapeutic firsts in the future.

This is an excerpt. Read the original post here.