“Biohacker” who tried to alter his DNA probed for illegally practicing medicine

Enlarge / Zayner is best known for injecting himself with CRISPR.

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Prominent genetic “biohacker” Josiah Zayner is under investigation by California state officials for practicing medicine without a license.

Zayner has a background in biophysics and runs a company called The Odin, which sells do-it-yourself genetic engineering kits and other lab equipment intended for use outside of scientific laboratories. The kits and tools are intended to allow lay users to genetically modify bacteria, yeast, animals, and even humans.

The human that Zayner’s products are best known for trying to modify is Zayner himself. In fact, the brazen CEO has a long history of self-experimentation. In 2016, he attempted a stomach-churning DIY fecal transplant in an airport hotel, then moved on to trying to genetically engineer his skin.

But he is perhaps best known for an alcohol-fueled stunt he livestreamed in October 2017. Between swigs of Scotch, he injected himself in the arm with what he said was the DNA for the genetic engineering tool CRISPR. The stated goal was for

the CRISPR-Cas9 gene-editing machinery to snip and disable Zayner's myostatin gene, which is involved with muscle-growth regulation before and after birth. Disabling the gene could leave him with beefy muscle growth.

But Zayner admitted—and outside experts agreed—that the experiment was unlikely to work. It's unclear if the genetic material made its way into Zayner's cells and, if so, how many and to what effect. Most of the research on myostatin has been done in animals.

In an interview with Buzzfeed directly after the October 2017 muscle-editing stunt, Zayner told the outlet, "I want to live in a world where people get drunk and instead of giving themselves tattoos, they're like, 'I'm drunk, I'm going to CRISPR myself.'"

But by February of 2018, he took a sober stance. Other biohackers had begun performing similar self-injection stunts, and Zayner expressed regret. "Honestly, I kind of blame myself," he told The Atlantic. "There's no doubt in my mind that somebody is going to end up hurt eventually," he said. Still, Zayner has continued to sell his DIY genetic engineering kits.

The biohacking community wasn't alone in taking notice of Zayner's antics, however. Weeks after his CRISPR injection, the Food and Drug Administration weighed in, calling genetic-editing kits illegal. (Zayner had a run-in with the FDA back in 2016, too, for selling kits to brew glow-in-the-dark alcoholic beverages). In a notice about the human gene-editing kits, the FDA wrote:

> *FDA is aware that gene-therapy products intended for self-administration and "do-it-yourself" kits to produce gene therapies for self-administration are being made available to the public. The sale of these products is against the law. FDA is concerned about the safety risks involved.*

Now, officials in Zayner's home state of California have also taken notice. According to a May 8, 2019, letter Zayner posted to his Instagram account on Wednesday, health investigators at the Department of Consumer Affairs are following up on a complaint alleging Zayner is practicing medicine without a license. The investigators are "now at the point in our review where we would like to discuss this matter with you," it read. They requested an interview and noted, "We will be discussing your business."

On the social media site, Zayner responded, saying that the investigation stemmed from his "genetic self-experimentation" for the purpose of "showing people how to access publicly available knowledge." He continued:

> *The truth is that I have never given anyone anything to inject or use, never sold any material meant to treat a disease, and never claim to provide treatments or cures because I knew this day would come.*
>
> *The f***** up part is that so many people are dying not because of me but because the FDA and government refuses to allow people access to cutting-edge treatments or in some cases even basic healthcare. Yet I am the one threatened with jail.*

Practicing medicine without a valid license in California can be tried as either a misdemeanor or a felony, with penalties up to a $10,000 fine and three years in prison.

Zayner concluded on Twitter: "Yeah, I need to find a lawyer." He did not immediately respond to Ars' request for comment.

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