Biology ‘designers’ build new organisms by DNA swapping

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis.

To make something that smells like grapes without using grapes, designers can insert genes from various plants, including corn, into the basic yeast “chassis” to build a new genetic architecture. The redesigned genetic sequence gave rise to a variant of yeast that, when fermented, produces a chemical that smells distinctly of grapes. The sweetness, the tartness, the hint of dirt—it’s all there, emanating from a tube full of fungus.

You could describe Ginkgo BioWorks as a biotech startup, a research lab, or a well-funded band of biohackers. Ginkgo calls itself an organism design foundry. Semantics, perhaps, but the wording is important. Throughout history, biologists have focused on describing and understanding the natural world. But a greater understanding of life’s building blocks has given them a greater proclivity for engineering and designing organisms.

This creative practice, which falls under the umbrella term synthetic biology, views DNA as something to be manipulated and rearranged. Proponents see a day when biologists can build organisms capable of anything imaginable with a degree of reproducibility typically reserved for engineering. In this new world where biotech companies like Ginkgo and Amyris and Craig Venter’s Synthetic Genomics play, biologists become designers working with one of the most powerful substrates imaginable: life.

Read full, original post: Move over, Jony Ive – Biologists are the next rock star designers