Can GE yeast-derived malaria drug survive market obstacles?

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“It’s been a dream project — but it’s been a long dream,” says Jay Keasling, a biochemical engineer at the University of California, Berkeley. Seven years ago, he and his team genetically engineered yeast to produce artemisinic acid, a precursor to the best malaria treatments available: artemisinin-based combination therapies (ACTs). Synthetic biology, Keasling hoped, could produce the drug more cheaply and reliably than natural sources, benefiting the roughly 200 million people infected with malaria each year.

Keasling’s pipe dream has turned into a drug pipeline. In 2008, Paris-based pharmaceutical company Sanofi licensed the yeast that he helped to develop, and at an artemisinin conference in Nairobi last month, Keasling learned that the company had produced almost 39 tonnes of artemisinic acid — the first industrial-scale deployment of synthetic biology for drug production. The stock could be converted to at least 40 million treatments, says Keasling.

But the elegant science faces some messy realities. This year will see the end of one of the main funding routes for ACTs — the Affordable Medicines Facility — Malaria (AMFm) programme, run by the Global Fund to Fight AIDS, Tuberculosis and Malaria in Geneva, Switzerland. Its demise may not leave enough alternative funding to pay for the extra treatments made possible by the semi-synthetic process. Furthermore, if Sanofi’s product is rushed into pharmacies at similar prices to existing products, it could disrupt an already volatile market.

Read full, original post: Malaria drug made in yeast causes market ferment