

# Tritica Biosciences Develops Wheat-Based Protein Synthesis Platform

*From fields to pharma: Tritica Biosciences and partners launch WHEAT project to transform drug manufacturing.*

WAMEGO, KS, UNITED STATES, April 28, 2025 /EINPresswire.com/ -- From fields to

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By harnessing the power of wheat based cell-free systems, we're planting the future of medicine, helping to make production more efficient, flexible and localized.”

*Dr. Chris Miller, Founder and CSO, Tritica Biosciences*

pharmaceuticals: a Kansas company is redefining what wheat can do. Based in Wamego, Tritica Biosciences is exploring the crop's unexpected potential to revolutionize drug development.

[Tritica Biosciences LLC](#) and three other partners will work under [Boston-based Ginkgo Bioworks](#) on a \$29 million, two-year contract with [Advanced Research Projects Agency for Health \(ARPA-H\)](#). The project is designed to validate wheat germ cell-free protein synthesis as a rapid and affordable approach to drug development.

Dr. Chris Miller, founder and chief scientific officer of Tritica Biosciences, combined his background in biochemistry and grain processing to develop a scalable system for wheat germ based cell-free protein synthesis. This powerful innovation enables a new method of biomanufacturing with broad applications from food to pharmaceuticals.

“We are excited to be partnering with Ginkgo Bioworks, US Pharmacopeia, On Demand Pharmaceuticals and Isolere Bio by Donaldson to harness the power of wheat germ in cell-free systems,” Miller said.

The ARPA-H project, known as Wheat-based High efficiency Enzyme and API Technology (WHEAT) aims to boost domestic manufacturing of critical medicines by producing them when and where they are needed. Many active pharmaceutical ingredients (APIs) are currently affected by fragile global supply chains, and reshoring biomanufacturing will help stabilize the supply of critical, life-saving drugs. WHEAT is one of the first initiatives within ARPA-H's Scalable Solutions Office, which aims to transform the health of all Americans by improving the speed, scale and access to medical treatments.

“By harnessing the power of wheat based cell-free systems, we're planting the future of medicine, helping to make production more efficient, flexible and localized. We're proud to be

part of this effort funded by ARPA-H,” Miller said.

## Breadbasket to Biomanufacturing

Chris and Brandi Miller founded Tritica Biosciences in 2017 with the goal of transforming their shared passion for science and agriculture into life-changing innovation.

Brandi joined Tritica full-time earlier this year after serving over six years as the CEO of the Kansas Cooperative Council. She brings business development, management, leadership and grain processing expertise to the team.

Tritica Biosciences and its WHEAT partners have their eyes on the future.

According to a news release from Ginkgo Bioworks, WHEAT’s innovations will include post-translational modifications to establish a foundation suitable for producing biologics.

“Kansas has been called the Wheat State and the Breadbasket of the World, but this project can help our state become a hub for the bioeconomy of the future,” Brandi Miller said.

## About Tritica Biosciences

Tritica Biosciences is revolutionizing synthetic biology through a groundbreaking technology designed for rapid discovery, prototyping and manufacturing. Our focus is innovation, and we are committed to accelerating the biomanufacturing process and delivering new products that address global challenges in biotechnology. Our proprietary strain-free discovery platform, seamlessly integrated with scaled production, enables us to iterate, optimize and launch products at unprecedented speeds. Founded in 2017, Tritica Biosciences is driven by a team of experts dedicated to pushing the boundaries of biotechnology. For more information, visit [triticabio.com](http://triticabio.com).

## About Ginkgo Bioworks

Ginkgo Bioworks is the leading horizontal platform for cell programming, providing flexible, end-to-end services that solve challenges for organizations across diverse markets, from food and agriculture to pharmaceuticals to industrial and specialty chemicals. Ginkgo Biosecurity is building and deploying the next-generation infrastructure and technologies that global leaders need to predict, detect and respond to a wide variety of biological threats. For more information, visit [ginkgobioworks.com](http://ginkgobioworks.com) and [ginkgobiosecurity.com](http://ginkgobiosecurity.com).

## About US Pharmacopeia

USP is an independent scientific organization that collaborates with the world's top experts in health and science to develop quality resources and standards for medicines, dietary supplements and food ingredients. For more information, visit [usp.org](http://usp.org).

## About On Demand Pharmaceuticals

On Demand Pharmaceuticals is a new kind of pharmaceutical company. We are focused on providing healthcare professionals and their communities access to the most agile medicine-making capabilities, including subscription services and point of care delivery systems that integrate production oversight innovations with our robust formulary. For more information, visit [ondemandpharma.com](http://ondemandpharma.com).

About Isolere Bio by Donaldson

Isolere Bio by Donaldson is a leading biotechnology company focused on revolutionizing biomanufacturing with innovative purification technologies. For more information, visit [isolerebio.com](http://isolerebio.com).

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