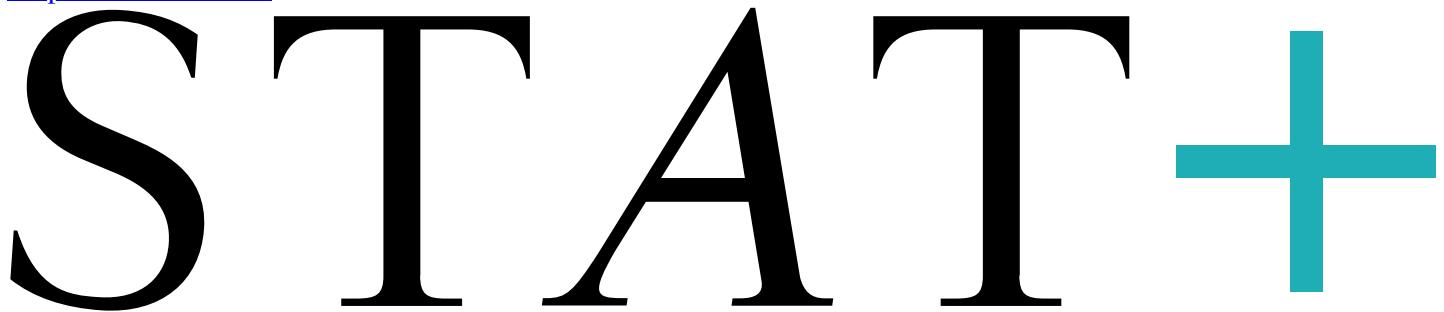


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## 4 food allergy immunotherapy companies to watch

By Maddie Bender Nov. 24, 2021



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More and more children are developing food allergies — and biotech companies are springing up to take advantage of the demand for treatments.

First on the scene, when parents and, eventually, allergists began to notice the increase in children's food allergies, was Aimmune Therapeutics. The company was founded to prevent severe allergic reactions from happening, rather than react to them with epinephrine injections. In February 2020, just under a decade after its start, Aimmune's oral immunotherapy became the first Food and Drug Administration-approved peanut allergy treatment.

In practice, oral immunotherapy had historically been an off-label practice in which allergists would give patients small but increasing amounts of an allergen that in large quantities would otherwise trigger an allergic reaction. Aimmune's treatment, Palforzia, is a capsule containing peanut seed storage proteins in powder form that children ages 4-17 consume at standardized doses. Completing each dose can reduce the severity of a person's allergic reaction if they are accidentally exposed to peanuts, though administering the treatment carries its own safety risks.

Palforzia's approval — and Aimmune's subsequent acquisition by Nestlé — has ushered in a number of biotech startups working on oral immunotherapy treatments for peanut allergies and other food allergies, too.

"Once we were approved, I do think that was a catalyst for other entrepreneurs and innovators to realize that there is a pathway in food allergy," said Steve Tilles, Aimmune's senior director of medical affairs. "It's a great time to be a patient relative to where the field was even five years ago."

Here are four other companies hoping to take advantage of this new niche:

## Allero Therapeutics

Allero is working on patches that are applied to the inside of a patient's mouth and introduce peanut proteins alongside innocuous probiotics — a kind of molecular-level camouflage that familiarizes the immune system with the allergens. The company, founded in 2016, patented its mouth patches in February, and its researchers have collaborated to publish two papers this year

supporting the technology's efficacy in animal models and the science underlying its approach.

Earlier this month, the company began testing the most recent iteration of its patch prototype, which it aims to validate for food allergies and food-related immune disorders like celiac disease.

Co-founder and CEO Emil Pot said the company partially timed its emergence from stealth mode to coincide with Palforzia's FDA approval.

"I've been working in the allergy space for many years, and now, suddenly, Aimmune's approval has opened up investment into that field," he said.

## COUR Pharmaceuticals

COUR is a Chicago-based company developing nanoparticles to modify the immune system, with ongoing trials in autoimmune disorders and food allergy. Last month, it dosed its first human patient in an early-stage proof-of-concept trial for its experimental peanut allergy drug. COUR's solution encapsulates purified peanut protein extract in biodegradable nanoparticles that, upon intravenous injection, bind to specific immune cells to induce tolerance.

The ongoing trial will follow several dozen participants between the ages of 16 and 55 as they receive increasing doses of CNP-201 or a placebo, and will record any reactions or adverse events, in addition to changes in patients' levels of inflammatory proteins and peanut-specific immune cells.

## DBV Technologies

Despite being denied FDA approval for its immunotherapeutic patch in August 2020, the French pharmaceutical company DBV persisted with additional human studies for the Viaskin Peanut patch. The major setback led to a 200-employee layoff — more than two-thirds of its staff — and modifications to its patch. Embattled, the company is awaiting a decision from the European

Medicines Agency on a Marketing Authorization Application for Viaskin, which it expects at the end of 2021 or early next year.

Viaskin Peanut is a daily patch containing microgram amounts of dry peanut protein. Once applied to a patient's back, the allergen dissolves and is absorbed into the skin. The hope is that the treatment will reprogram a class of T cells to tolerate the allergen and reduce the severity of allergic reactions. DBV is betting on its peanut trials to validate the skin patch platform, opening it up to milk and other food allergies.

## Intrommune Therapeutics

Of the many activities children love, brushing their teeth isn't often one of them. But Intrommune makes an immunotherapeutic toothpaste, which combines the full functionality of a toothpaste with peanut allergens to gradually desensitize its patients.

The company has filed dozens of patents on its toothpaste to date, and in June, Intrommune was featured on an episode of "Unicorn Hunters," a "Shark Tank"-like streaming show featuring investors like Steve Wozniak and Lance Bass. The company is currently recruiting participants for a Phase 1 trial for INT301, its peanut allergen toothpaste. Over eight weeks, adult participants will receive escalating doses of the toothpaste, and researchers will monitor them for any allergic reactions or other adverse events.

## About the Author

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