

Scientific conundrum solved? Dairy-free cheese that mimics the real thing in development

“Coming at it from a scientific perspective, you can’t help but realise that there’s no magic in cows or in milk,” [Ryan Pandya] says. “It’s just chemistry and biology. So it stands to reason that if you had an almond milk that had whatever ingredients are in cow’s milk, and you make it act like cow’s milk, you would have a vegan version of milk.”

The answers that Pandya found that day – the mystical ingredients – were casein and whey protein. These are the molecular building blocks that, in combination, give milk (and, ultimately, cheese) its unique texture, taste and ineffable, creamy deliciousness.

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Given that Pandya was already using yeast cells to rapidly replicate proteins in his day job, he couldn’t help but wonder if the same principle could be applied to make milk.

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“Every organism in the world can speak the same language of DNA,” explains Pandya. “So if there’s a protein sequence that a cow thinks of as whey protein, and somehow a yeast cell is reading that same DNA sequence, it’ll print out the exact same protein.”

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Now, after seven years, [Pandya’s company Perfect Day is] at the forefront of an increasingly crowded lab-made, cow-free dairy market... The white gold rush is on.

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