

Celleste Bio Unveils Milk Chocolate Bars Made with Cell-Cultured Cocoa Butter

16 April 2026 | News

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Celleste Bio unveiled the world's first milk chocolate bars made with real cocoa butter using cell suspension culture technology. This is a critical achievement for the cocoa tech leader in accelerating its capabilities to build a scalable, commercially viable cocoa supply.

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This milestone demonstrates Celleste's cell-cultured ingredients are bio-identical to conventionally grown cocoa - meaning they deliver the same texture, melt profile and sensory experience, and set the stage for scaling production to market-ready quantities within the next two years.

"Celleste launched in 2022 with the mission to secure a sustainable future for the global chocolate industry amidst increasing supply chain pressures of climate change, disease, traceability and geopolitical instability," said Michal Beressi Golomb, CEO, Celleste Bio. "In three years, we've made unprecedented progress to meet this formidable scientific challenge. We've validated our ingredients as drop-in replacements, created an operational R&D pilot facility to scale up our volumes and now proven our cocoa butter performs identically to conventional cocoa, clearing the next phase to commercial scale."

Celleste is also poised to change the dynamic of the chocolate market. Its model is designed to leverage AI computational modelling to customise cocoa butter to customer specifications – such as higher melting points and taste experiences – that can allow manufacturers to uplevel their innovation and competitive advantage.

Celleste's Chief Technical and Scientific Officer, Hanne Volpin, PhD, underscores the environmental upside of using cell-cultured technology to supplement traditional growing methods.

"Building a resilient supply chain means being able to produce at commercial volumes while offsetting disruptions caused by climate change, deforestation and resource scarcity," says Volpin. "We are on track to produce 1 ton of cocoa butter annually in a 1000-litre bioreactor from a single bean, which would otherwise require about a hectare of cocoa trees. To that end, we've curated a very robust bank of multiple cocoa bean varieties we can use to grow, test and scale material without ever having to cut down a single tree in the rainforest."