

## Trend

# Latest Trends in Cultured Meat: Consortium for Future Innovation by Cultured Meat

## Authors

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### [Brief background]

Michiya Matsusaki was born in Kagoshima, Japan in 1976. He received his Ph.D. degree in 2003 from Kagoshima University. He started his academic career as a Postdoctoral fellow at Osaka University in 2003. He was a visiting scientist at Lund University in 2004. In 2006, he joined the Department of Applied Chemistry in the Graduate School of Engineering at Osaka University as an Assistant Professor. He was promoted to Associate Professor in 2015 and to full Professor in 2019. He was a JST-PRESTO researcher (Concurrent position) from 2008 to 2011 and from 2015 to 2019. He was awarded 21 awards including Osaka Science Award and the Young Scientist's Prize by MEXT. His research interest is biomaterials and tissue engineering for regenerative medicine and pharmaceutical applications. His current publication number is 215 and h-index is 47.

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Michiya Matsusaki



Kazumasa Nodake

In 2021, a team led by Professor Matsusaki of Graduate School of Engineering, Osaka University developed "3D-printed Kintaro candy technology" that allows for the reproduction of the complex structure of meat. The technology works by 3D printing different types of fibrous tissue, such as muscle, fat, and blood vessel, and then integrating them together like intricately designed rock candy (Nature Communications 12:5059). This technology not only allows for the reproduction of the characteristic marbling of Wagyu beef but also makes it possible to adjust the amount of muscle and fat of a piece of meat.

With the goal of further developing this technology and supporting its real-world use, Graduate School of Engineering, Osaka University, Shimadzu Corporation, Itoham Yonekyu Holdings Inc., TOPPAN Holdings Inc., and SIGMAXYZ Inc. formed an operating partnership in March 2023 and established the Consortium for Future Innovation by Cultured Meat and (ZACROS Corporation joined in May 2024). With facilities such as the Joint Research Laboratory for Social Implementation of Cultured Meat (established by Itoham Yonekyu Holdings and TOPPAN Holdings), the Joint Research Laboratory (ZACROS) for Social Implementation of Bio-Manufacturing (established by ZACROS), and the Osaka University - Shimadzu Analytical Innovation Research Laboratory on the Osaka University Suita Campus, the consortium is doing work that transcends that of any one company.

In addition to the operating partners, the consortium is also made up of R&D partners

and communications partners. The former conducts joint research in specific technical fields while the latter is responsible for promoting cultured meat-related technologies and products through information sharing. So far, seventeen companies have joined the consortium (as of January 2025), however, further participation from a wider range of fields is expected.

The consortium is supporting the Osaka Healthcare Pavilion: Nest for Reborn at Expo 2025 Osaka, Kansai, Japan, and plans to exhibit cultured meats and automated cultured meat manufacturing equipment that uses 3D bioprinting technology. By exhibiting at the expo, we hope to promote awareness for cultured meat as a food of the future that will reduce environmental impact and contribute to solving the global protein shortage.



Cultured meat



培養肉未来創造  
コンソーシアム

Consortium for Future Innovation by Cultured Meat  
Consortium logo



Consortium establishment ceremony