

March 29 2023

**Osaka University, Shimadzu, Itoham Yonekyu, Toppan, and  
SIGMAXYZ have established  
“the future creation consortium for cultured meat.”  
Centers for research promotion are located at Osaka University.**

On March 29, the Graduate School of Engineering, Osaka University (Osaka University), Shimadzu Corporation (Shimadzu), Itoham Yonekyu Holdings Inc. (Itoham Yonekyu), Toppan Inc. (Toppan), and SIGMAXYZ Inc. (SIGMAXYZ) established “the future creation consortium for cultured meat.” The consortium focuses on "concrete initiatives for practical implementation of the manufacturing technology of edible cultured meat using 3D bioprinting." Through cross-company collaboration, we will carry on "developing 3D bioprinting technology for application", "establishing an integrated value chain from production to logistics", and “contributing to legislation through collaboration with government offices and private companies." By exhibiting at the 2025 World Exposition in Osaka, Kansai, we will concentrate on "providing information that helps people understand cultured meat," aiming to realize the world's first use of cultured meat.

The consortium consists of "operating partners," who develop technologies, negotiate with government offices and related organizations, and provide information to the public; "R&D partners," who engage in joint research in specific technology areas; and "practical implementation partners," who dispatch information to make cultured meat-related technologies and products popular. "Operating Partners" are Osaka University, Shimadzu, Itoham Yonekyu, Toppan, and SIGMAXYZ. For the positions of "R&D partners" and "practical implementation partners," we will invite applications from various fields.

→Apply here([s-matsusaki@chem.eng.osaka-u.ac.jp](mailto:s-matsusaki@chem.eng.osaka-u.ac.jp))

The 3D bioprinting technology developed by Osaka University can freely produce muscle tissue structures and is expected to be used in the fields of food, regenerative medicine, and drug design. In August 2021, Osaka University and Toppan published a paper on a technology that produces different kinds of fibrous tissues, such as muscle, fat, and blood vessels using 3D printing and bundles up and integrates them. After the technology was established, Osaka University, Shimadzu, and SIGMAXYZ signed a partnership agreement for the practical implementation of 3D bioprinting technology in March 2022 and began working on its practical implementation. By receiving Itoham Yonekyu as a member, who has extended its knowledge about meat over the years, "the future creation consortium for cultured meat" will further develop collaborations and accelerate technological development. Prior to the establishment of the consortium, Osaka University, Shimadzu, Itoham Yonekyu, Toppan, and SIGMAXYZ signed an agreement for "the practical implementation of cultured meat technology by 3D printing" to build a system for the initiatives.

With the establishment of the consortium, Osaka University, Itoham Yonekyu, and Toppan opened a "Joint Research Laboratory for Social Implementation of Cultured Meat" in Suita Campus, Osaka University. The joint research laboratory and "Osaka University Shimadzu Omics Innovation Research Laboratories," which is established in December 2019, will serve as the center for research promotion of the consortium.

The five parties are planning to exhibit an automated cultured meat production system and provide cultured meat produced by 3D bioprinting technology to visitors who wish to eat at the 2025 World Exposition in Osaka, Kansai, using the event as a place to communicate the initiatives of the consortium to the world. Through the Osaka Expo, we will present the ideal form of cultured meat as one of the "future foods," which will lower the burden on the environment and solve the global protein shortage. This will help people have a better understanding of what cultured meat is about. Through the initiatives of the consortium, the five parties will contribute to solving environmental and food problems, improving people's health, and proposing future foods.

#### ◆ About the Graduate School of Engineering, Osaka University

Roles as an operating partner: development and promotion of 3D bioprinting technology

Professor Michiya Matsusaki

URL: <http://www.chem.eng.osaka-u.ac.jp/~matsusaki-lab/>

E-mail: [m-matsus@chem.eng.osaka-u.ac.jp](mailto:m-matsus@chem.eng.osaka-u.ac.jp)

#### ◆ About Shimadzu Corporation

Roles as an operating partner: Automation of 3D bioprinting technology; analysis and evaluation of taste and aroma of cultured meat produced by 3D bioprinting technology; promotion of peripheral technology development, such as analysis of culturing technology; development of a medium suitable for automated production; organization and maturation; and monitoring and feedback of culturing processes

Representative: Yasunori Yamamoto, President and CEO

Location: 1, Nishinokyo Kuwabara-cho, Nakagyo-ku, Kyoto

URL: <https://www.shimadzu.co.jp>

Established: September 1917 (inauguration: March 1875)

Capital: 26.6 billion yen

Contact: Shimadzu Corporation

Corporate Communication Department, Public Relations Group

[pr@group.shimadzu.co.jp](mailto:pr@group.shimadzu.co.jp)

#### ◆ About Itoham Yonekyu Holdings Inc.

Roles as an operating partner: provision of meat cells that are to be the basis for high-quality cultured meat; repasting on and sensory analysis of cultured meat produced by 3D bioprinting technology; and promotion of peripheral technology development such as organization and maturation.

Representative: Isao Miyashita, President and CEO

Location: 1-6-21 Mita, Meguro-ku, Tokyo

URL: <https://www.itoham-yonekyu-holdings.com>

Established: April 2016

Capital: 30 billion yen

Contact: Itoham Yonekyu Holdings Inc.

Public Relations Office Public Relations Team

<https://www.itoham-yonekyu-holdings.com/inquiry/index.html>

#### ◆ About Toppan Inc.

Roles as an operating partner: optimization of muscle and fat fiber structure produced by 3D bioprinting cultured meat production technology; development of extracellular matrix materials (bioink and binding materials); and promotion of peripheral technology development that contributes to primary packaging, etc.

Representative: Hideharu Maro, President & Representative Director

Head office: 1-3-3, Suido, Bunkyo-ku, Tokyo

URL: <https://www.toppan.co.jp>

Established: 1908 (inauguration: January 1900)

Capital: 104,986 million (as of end of March 2022)

Contact: Public Relations headquarters, Public Relations Department, Toppan Inc.

[kouhou@toppan.co.jp](mailto:kouhou@toppan.co.jp)

#### ◆ About SIGMAXYZ Inc.

Roles as an operating partner: the project management office for coordinating and managing companies and organizations that have peripheral technologies and know-how.

Representatives: Hiroshi Ota, Co representative Director ; Yasuhiko Hayasaka, Co representative Director

Location: Toranomon Towers Office, 9th floor, 4 1 28 Toranomon, Minato ku, Tokyo 105 0001, Japan

URL: <https://www.sigmaxyz.com/sx/>

Establishment: October 1, 2021 (Started business in 2008)

Paid-in Capital: 200 million yen (as of December 2022)

Contact: Communication & Capability, SIGMAXYZ Holdings Inc.

[sxpr@sigmaxyz.com](mailto:sxpr@sigmaxyz.com)