

Creation of innovative food production technologies in response to environmental changes in the future

Development of the production technology for next generation-meat using 3D tissue engineering techniques

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Summary :

This project aims to establish the technology for the industrial production of cultured steaks using bovine muscle cells.

In order to sustainably produce cultured steaks, it is necessary to establish methods for the low-cost and sustainable mass culture of bovine myoblasts, the fabrication of cm-size mature skeletal muscle tissues, and the evaluation of their safety and taste. We will solve these problems by advancing and combining the current technologies owned by the R&D team, such as algae-based culture medium technology, floating mass culture technology, 3D skeletal muscle tissue construction technology, and food evaluation technology.

For the development of cultured meat, the major focus has been on the production of minced meat, and the cultured steaks has not yet been achieved. However, since steaks has higher consumer preference and higher unit price, it is assumed that cultured steaks will have higher possibility to generate real-world impacts. The cultured steaks that solved the above problems will be the next-generation foods capable of contributing to a sustainable and healthy society.

