

Understanding the cognitively regulatory basis of food value that controls feeding behaviors

Project manager

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Summary of the project

This project aims to elucidate the mechanisms by which favorite foods induce positive emotions such as pleasure and empathy with others, and food values are experience-dependently changed and develop a technology to improve food preference to enable enjoying eating healthy food, by using a rodent model from a neuroscientific viewpoint. Because our eating habits can sometimes cause diseases although food satisfies the mind through pleasure and improving health-conscious eating habits can cause mental distress. This project will try to achieve the goal of "increasing mental comfort and vitality" from the viewpoint of food.

Milestone by the end of project (year 2024)

To develop fundamental technologies to achieve mental well-being through the enjoyment of healthy food.

R&D theme structure of the project

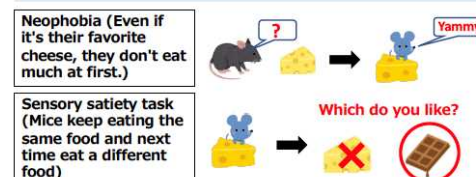
We will understand the mechanism by which food experience changes food preferences in mice (right figure ①) and the mechanism by which feeding preferred food generates positive emotions in mice (Figure ②). We will develop a task to clarify changes in food preferences in humans (this will be pre-study for understanding the mechanism by which humans make

decisions about what to eat) (Figure ③).

Performers: S. Kida, U of Tokyo (①, ②),

J. Fujiwara, Fukushima Medical U (③)

① Mechanisms for making decision for what to eat in mice



② Mechanisms for generation of positive emotion and empathy by feeding in mice



③ Development of psychological tasks for making decisions about what to eat in human (→Human brain imaging to collaborate mouse project)



Understanding the psychological mechanisms of changes in food valence

Development of technology to eliminate likes and dislikes of food without pain to make healthy eating enjoyable



Realization of a society in which healthy food provides well-being and mental vitality