

Application of metabolomics to two areas: microbial metabolic engineering for bioproduction and food science and technology of unique tropical bio-products.

Metabolomics

mass spectrometry

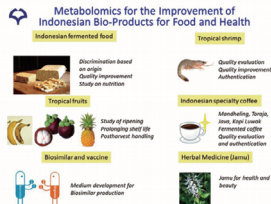
microbial bioproduction

food metabolomics

tropical bioproducts

研究
内容

Metabolomics is a very useful technology to understand and later engineer a biological system based on the knowledge of total metabolite profile of an organism. My research strategy is to expand the application areas of metabolomics to two new areas, microbial metabolic engineering and food science and technology of unique tropical bioproducts from Southeast Asia for the improvement of microbial based bioproduction of various useful compounds and the quality improvement and assessment of high value food commodities: a) specialty coffee, b) fine cacao, c) tropical fruits (mangosteen, mango, banana, pineapple), d) shrimp, e) fermented soybean tempe, f) herbal plants. My research resulted in the first publication on the authentication of world's most expensive coffee, Kopi Luwak, first metabolite analysis of mangosteen, fermented food tempe, several herbal plants and tropical fruits such as pineapple. These studies are important to give feedback to the food industry.



An overview of the various applications of metabolomics for the improvement of tropical bio-products in food technology and health.

Develop+
応用分野

Quality assessment for food and agricultural products, strain improvement of useful microbial hosts for bioproduction.



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論文・解説など

- [1] Dissook S. *et al.*, *Sci. Rep.* 2021. *In press*.
- [2] Putri SLE. *et al.*, *Metabolomics*. 2021;17(2):19.
- [3] Nitta K. *et al.*, *Frontiers in Bioengineering and Biotechnology*. 2021. *In press*.

連絡先HP

