

DISCOVERY

UNVEILING GEMS FROM NATURE

SIFBI's Discovery capability group harnesses the rich biodiversity of A*STAR's Natural Product Library (NPL) for industrial applications by developing and implementing miniaturised biochemical and cellular assays to identify food ingredients, enzymes and strains with desired properties.

With well-established Identify-Unlock-Activate methodologies, hidden natural chemical diversity of the microbes can be uncovered. *In silico* screening approaches for biosynthetic pathway identification, co-created with bioinformaticians, further accelerate the discovery process.

The capability group also conducts high throughput screening campaigns with rigorous assay performance monitoring to ensure quality control whilst ingredients with antibacterial, antifungal, antioxidant, enzyme-inhibiting, receptor agonistic and antagonistic functions are identified. Our unique *in vitro* taste analysis platform, an extended R&D capability, helps detect molecular underpinnings of tastant and taste receptor recognition, offering valuable insights in the search for new ingredients.

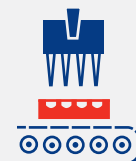
Capabilities



Assay
Development



High Throughput
Screening



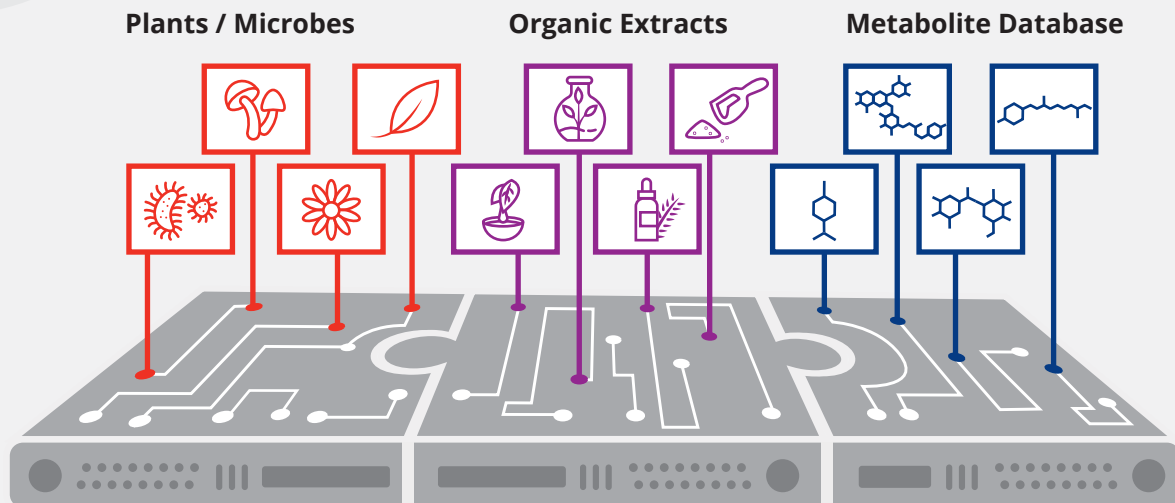
Discovery of
Natural Functional
Ingredients &
Novel Strains



In vitro
Taste Profiling
of Food



Our Differentiating Factor – A*STAR Natural Product Library



Robust framework to create and harness intellectual property

Compliance with Nagoya Protocol and Convention on Biological Diversity

Experiential Journey

Accelerate Possibilities for a Sustainable Future

Novel foods are mitigating the adverse impact of climate change on food security. The industry is advancing at an incredible pace while the search for new sources of alternative foods intensifies. Rapid screening methodologies for a reliable and sustainable food source with associated functionalities and benefits beyond nutritional value are more in demand than ever. SIFBI's Discovery team, together with our Strain Engineering and Biotransformation teams, work in an integrated fashion to innovate and co-create valuable intellectual property for market adoption.



At Kikkoman, our mission is to create novel delicious foods through healthier and fulfilling lifestyles while solving global issues including Singapore's 30 by 30 vision. Through our strategic collaboration with SIFBI, we are able to capitalise on SIFBI's research capabilities to push our boundaries and evolve our technologies for greater sustainable food production and safety."

Dr. Asahi Matsuyama, Managing Executive Officer, Kikkoman Corporation

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