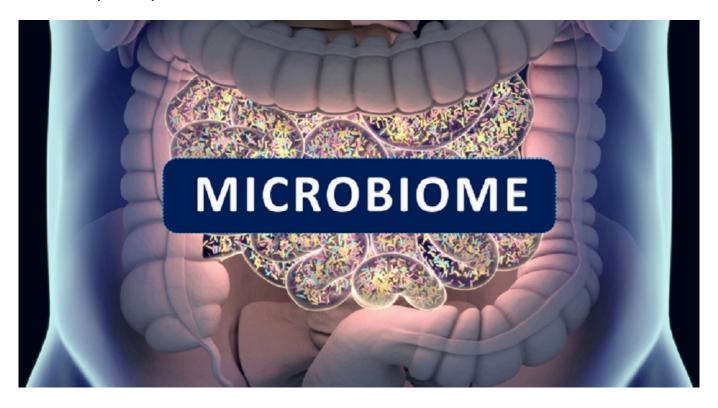**TECH OFFER**

Novel Analytical Pipelines For Gut Health Assessment

KEY INFORMATION

TECHNOLOGY CATEGORY:

Healthcare - Diagnostics
Healthcare - Pharmaceuticals & Therapeutics

TECHNOLOGY READINESS LEVEL (TRL): TRL4
COUNTRY: SINGAPORE
ID NUMBER: TO174602

OVERVIEW

Inside our intestines live trillions of microorganisms, which are collectively known as the gut microbiome. The gut microbiome plays a crucial role in our health in a variety of physiological functions, including controlling digestion and benefiting our immune system.

The technology comprises a proprietary analysis pipeline for analysing bacterial interactions in the gut. Using a gut microbiome sequencing database collected from individuals across age, gender, ethnicity and health status, the technology can provide individualised dietary advice and recommendations. The technology has gained immense interest amongst clinicians for its potential to develop more algorithms to enable personalized treatment for patients with conditions such as gastrointestinal disorders, metabolic diseases, and cancer.

With its in-house, Asia-centric microbiome data library, the technology provider is looking for technology enablers with expertise in machine learning to develop proprietary analysis pipelines for specific disease conditions.

TECHNOLOGY FEATURES & SPECIFICATIONS

Microbiome science is constantly evolving, with new discoveries making their ways into the mainstream science and medicine. The links between the gut microbiome and gastrointestinal, metabolic, immunity-related, and neurological diseases have been substantiated by studies and interventional trials.

The technology provider has launched a campaign to recruit and collect clinically viable stool samples from adults in Singapore, and is actively building its gut microbiome reference library. In Dec 2020, the technology provider launched a consumer based gut microbiome sequencing service. It is a non-invasive home test kit which analyses bacterial interactions in the gut and provides an overview of the individual's health status, and individualised dietary advice.

POTENTIAL APPLICATIONS

The technology can be applied to a variety of health conditions and treatments such as:

- Irritable bowel syndrome
- Recurrent kidney stones
- Immunotherapy
- Diabetes for personalized treatment options
- Disease management, diagnosis and predictive health risk using biomarkers from the gut microbiome

UNIQUE VALUE PROPOSITION

The gut microbiome test is a non-invasive test that analyses the stool sample from an individual. This allows patients to provide stool samples at ease of their homes where the sample would be posted via mail and received by the laboratory for testing.

The sequencing results will further empower clinicians in providing personalized treatments to patients based on the unique gut microbiome profile and other biomarkers.

The technology can potentially identify alternative therapeutic agents such as probiotics or prebiotics for diseases which are, at the moment, lacking in effective treatments.