



Immune Health Programme

Principal Investigator: Dr Olivier Gasser, Malaghan Institute of Medical Research

Collaborating Organisations: Cawthron Institute, AgResearch Ltd

Research Investment \$5m over five years

In phase 1, the High-Value Nutrition Immune Health programme focused on gaining a wider understanding of the influence of diet on lung health, mediated either directly by food bioactives or indirectly via changes to the gut microbiota.

Air pollution and associated threats to general health and productivity, including an increased risk of metabolic and cardiovascular disease, are of significant importance to Chinese consumers.

The phase 1 programme established mechanisms to evaluate the beneficial effect of different foods and food-derived bioactives to combat air pollution-driven inflammation, which highlights the opportunity of the New Zealand Food and Beverage (F&B) industry to engage in this emerging and substantial market.

In phase 2 this programme will conduct clinical studies to assess the ability of selected New Zealand-produced foods to protect Chinese customers from the harmful effects of air pollution.

“Chronic exposure to airborne pollutants is a big threat to the Chinese population and it not only impacts lung health, but has been more recently associated with metabolic disease as well,” says Dr Gasser. The planned studies will investigate the impact of selected foods on pollution associated systemic inflammation and metabolic co-morbidity.

“Another important task of the Immune Health programme is to establish an immunological analysis platform which can be used by the other HVN health themes,” says Dr Gasser. “Leveraging the comprehensive banking of samples from completed human studies, the research team are creating an analysis pipeline to understand the complex relationship between food, the microbiome and the human immune system,” he says.

“This depth of analysis has never been achieved before and attests to the science excellence the team have been building over the years, in collaboration with various HVN partner institutions such as AgResearch and Plant and Food Research, as well as the New Zealand F&B industry,” says High-Value Nutrition Director, Joanne Todd.

“The HVN Immune Health programme is moving seamlessly into the specific phase 2 preparations, which include setting up a human trial platform in China,” says Ms Todd. “Very close interaction with New Zealand F&B industry partners and finalising the immunological tools which will be used to support the scientific and industry goals of HVN in the next 5 years,” she says.