Training Innate Immunity: A Scientific Breakthrough in Immune Support for Everyday Health

More and more health-conscious consumers seek science-backed solutions. Trained innate immunity, clinically proven to offer immune benefits, presents exciting possibilities for food, beverage and supplement brands. By Olivier De Salmiech, Vice President, Nutritional Supplements, Kerry Asia Pacific, Middle East & Africa

In recent years, consumers have shifted towards managing their health proactively. They seek ways to strengthen their immunity so they can live healthy for longer.

In Asia Pacific, for example, consumers have shown more desire to improve immune health. The 2022 FMCG Gurus: Consumer Perceptions on Immunity in Asia Pacific report found that 66 percent of consumers wish to enhance their immune health for better quality of life. This is a significant increase from 40 percent in 2019.

The same report also found that 77 percent of consumers now recognise the connection between immune health and overall health.

These consumer trends signal an increased interest in foods, beverages and supplements supporting immune health. Meanwhile, a novel way of fortifying our immune system, known as trained innate immunity, has also been recently discovered.

In this article, we will delve into the concept of trained innate immunity to support immune health in a unique way, and the implications for the food, beverage and supplement industries. First, let's understand our immune system better.

Innate Immunity vs Adaptive Immunity

The human immune system is like a two-tiered defence fortress. The first line of defence is the innate immune system, which remembers everyday viruses and bacteria the body is exposed to.

When these pathogens enter the body, the innate immune system responds swiftly to fight them off before they can start active infections. The innate system does so generally without having to recognise the specific pathogens.

If the innate system's response is insufficient to fend off the pathogens, it prompts the adaptive immune system to take over. The adaptive system's response is slower but specific. It remembers and identifies the specific pathogen from previous encounters and provides targeted protection against that specific challenge.

A Recently Discovered Mechanism: Trained Innate Immunity

A once-held belief was that the innate immune system did not adapt or enhance its responses to future immune challenges. However, scientists have discovered that innate immune cells do in fact have a kind of memory that results in protection against a broad range of unrelated diseases.

Innate immune cells can be naturally trained by pathogens the body regularly encounters or via vaccines. The BCG and the adenoviral ChAdOx1 nCoV-19 vaccines, for example, have been found to be able to induce trained innate immunity.

Trained innate immunity occurs when an "immune trainer" interacts with the innate system. The trainer changes how the innate system handles threats from pathogens in subsequent encounters. These changes last for as long as the innate system remains trained.

To grasp this concept better, imagine starting a fitness regimen. After weeks of training, your body becomes stronger and better conditioned to tackle physical challenges. If you continue exercising, you can maintain this trained state.

Similarly, by consistently interacting with the immunity trainer, the innate system becomes, and stays, trained to combat threats more effectively in the future.

The Role of Yeast Beta-Glucans

Research has shown that some functional and bioactive ingredients may be able to induce and maintain trained immunity. Yeast beta-glucans, for example, derived from baker's yeast, are one of the first ingredients scientifically proven to be an effective innate immune trainer.

This is where Wellmune, a beta glucan postbiotic from baker's yeast, can be applied to foods, beverages and supplements to train innate immunity.

Wellmune activates the training receptors in innate immune cells. These receptors then send signals that "bookmark" the genes needed for an immune response. When "bookmarked", these genes can be accessed more quickly for a stronger response the next time pathogens attack.

At the same time, the receptors also send signals that give the cells more energy. This makes the cells better at defending the body, like how you perform better when you are not hungry.

Scientific Validation of Innate Immunity Training

Over the years, based on a dozen Kerry clinical studies involving 2,300 adults and children to uncover the benefits of training innate immunity with Wellmune, the findings consistently showed a decrease in:

- the number of reported upper respiratory symptoms
- the severity of these symptoms
- the number of sick days experienced by participants with colds and flu

These studies involved individuals facing high stress levels, older adults, and children exposed to immune challenges in germ-heavy childcare centres.

Opportunities For Enhancing Immune Health

The 2022 FMCG Gurus: Evolving Trends in the Immune Health Market report found that "clinically proven" is the top claim sought by consumers in food, beverage and supplement products targeting immune health.

The same study also reported that 78 percent of consumers are more willing to buy immune-supporting products backed by scientific evidence.

In a world where discerning consumers demand scientific substantiation in food and beverage health claims, the discoveries around innate immunity training thus offer brands golden opportunities to integrate science-backed ingredients that train innate immunity into their functional foods, beverages and supplements.

By doing so, brands can meet the ever-growing consumer demand for products that offer genuine immune health benefits. APF