## **Prebiotics:** The immune system

## Healthier gut = healthier immune system

With 70% - 80% of immune cells being present in the gut, there is a well-recognised impact of nutrition on the composition of the gut microbiota and the immune system.

Prebiotic fibres are the 'special food' that friendly bacteria (probiotics) need to grow and flourish - helping to establish a healthier, happier gut microbiome, which ultimately can have a positive impact on the immune system.



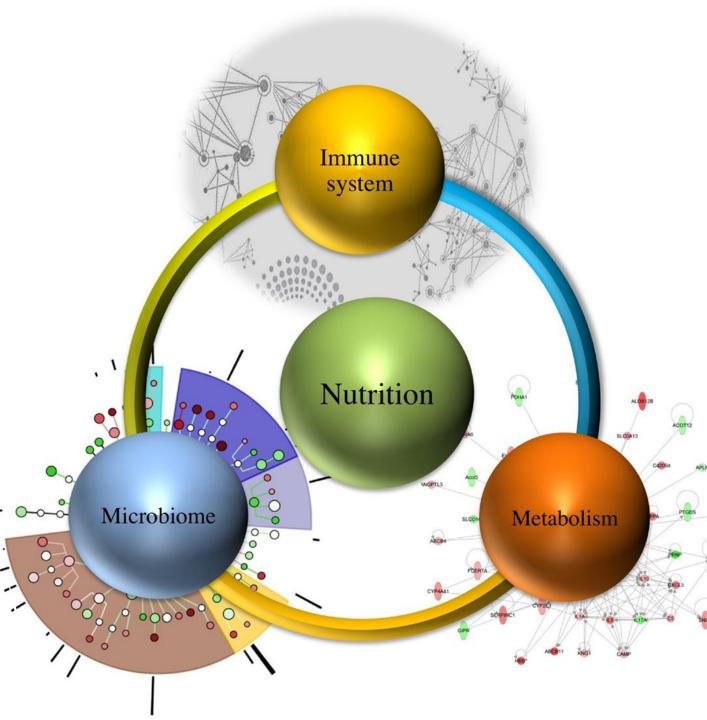
## Boosting Immunity

A study on **ió** fibrewater by Glasgow Caledonia University scientifically proved the water significantly increased the probiotic *B. Coagulans*.

A <u>study</u> found that *B. Coagulans* significantly increased the production of cells that play a key role in the body's immune response.

The knowledge about the influence of prebiotics on the gutassociated lymphoid tissues (GALT) for the improvement of human health is still growing.

There is convincing preliminary data to suggest that the consumption of prebiotics can modulate immune parameters in GALT, although further research is needed to better define the changes, mechanisms for immunomodulation, and the ultimate impact on immune health.



Research on prebiotics & the immune system

- Effects of prebiotics on immune system and cytokine expression. <u>https://pubmed.ncbi.nlm.nih.gov/12088522/</u>
- Inulin, oligofructose and immunomodulation. <u>https://pubmed.ncbi.nlm.nih.gov/15877895/</u>
- Immunological properties of inulin-type fructans. <u>https://pubmed.ncbi.nlm.nih.gov/24915372/</u>
- Gut-Brain Axis: Role of Gut Microbiota on Neurological Disorders and How Probiotics/Prebiotics Beneficially Modulate Microbial and Immune Pathways to Improve Brain Functions. <u>https://pubmed.ncbi.nlm.nih.gov/33066156/</u>
- Prebiotics, probiotics, synbiotics, and the immune system: experimental data and clinical evidence. <u>https://pubmed.ncbi.nlm.nih.gov/25594887/</u>
- The immune-enhancing effects of dietary fibres and prebiotics. <u>https://www.cambridge.org/core/journals/british-journal-of-</u> <u>nutrition/article/immuneenhancing-effects-of-dietary-fibres-and-</u> <u>prebiotics/FFEA531AEF921673B1F608A46561EC07</u>