



Stronger inner defence
with prebiotic chicory root fibres.

Why health begins by taking good care of your gut microbes.

Nowadays health and a strong inner defence system are more important than ever. While physical protection and medication is one way, a balanced and smart choice of nutrients can also support our inner defence system. This is because our gut is the barrier between the inside of our body and the outside world. Most of us may not think of it this way, however the gut comes into contact with food, drinks, and even bacteria and pathogens everyday via our mouth.

Our gut is like a tube that starts with the mouth where food intake takes place and via stomach, small intestine and large intestine the digestion process happens and leads to the end, with faeces leaving the tube. Our gut has many functions, not only does it serve as a protective barrier, it is also the place where a major part of our immune system is based, around 70%. Because pathogens can enter our body from the outside world, both a good functioning intestinal barrier and a strong immune system can help prevent these pathogens from harming us.

Our gut is also where trillions of microbes live, and our gut microbes play an important role in regulating our immune system.¹ Imbalances in gut microbes have been linked to poor immunity and diseases, so good health starts with taking care of our gut microbes, particularly the beneficial microbes.

Strengthening the inner defence from the start

Building up healthy gut microbes begins from birth. Babies are born with an undeveloped gut that contains hardly any microbes. A baby's immune system is very much influenced by bacteria colonising the gut in the first weeks and months of life, with the beneficial gut microbe called Bifidobacteria playing an important role.²

Studies show that higher levels of bifidobacteria in the baby's gut are linked to better immunity and also lower numbers of harmful bacteria.² Bifidobacteria is higher in babies who drink breastmilk compared to traditional infant formula.²

Why do breastfed infants have larger numbers of bifidobacteria? This is because breastmilk contains prebiotics. Breastmilk is also the best nutrition for babies as it influences the development of the baby's immune system, and this helps to protect the child from getting sick.²

Naturally occurring prebiotics are oligofructose and inulin from the chicory root. Oligofructose and inulin currently are the only scientifically-proven plant-based prebiotics¹. They are naturally extracted from the chicory root using hot water. These prebiotics increase beneficial bifidobacteria in the gut, improve digestive health, and strengthen the inner defence of babies and children.^{3, 4, 5}

Because of the health benefits, prebiotic oligofructose and inulin are added to infant formula, follow-on formulas, and other foods and drinks for babies and children.



How do prebiotic oligofructose and inulin help to strengthen immunity?

Some of our gut microbes are known to be beneficial for health, e.g. Bifidobacteria and Lactobacillus. These bacteria can be selectively increased by eating specific nutrients, i.e. the prebiotic fibres inulin and oligofructose from the chicory root. In this way, our immune system can be strengthened.

Prebiotic oligofructose and inulin are not digested in the small intestine. Instead, they reach the large intestine relatively unchanged and are selectively fermented by the beneficial bacteria in the gut. This results in a higher number of good bacteria.

Good bacteria defend the body by killing harmful microbes and preventing them from colonising the gut. These gut microbes also help in developing the immune cells and strengthening the gut barrier, which is where most of the immune cells are located.² Good microbes also produce beneficial substances called short-chain fatty acids. Short-chain fatty acids are crucial for gut health and play a role in regulating the immune system.¹

Supporting the immune system from the inside out in infants and children

Research in prebiotics and gut microbes has been in the spotlight for many years, as there are strong connections between certain groups of gut microbes and immune health. Because the immune system of babies and children is not yet fully developed, prebiotics play an important role in strengthening their inner defence.

In a study conducted over 6 months in babies aged younger than 2 years, those who consumed oligofructose-enriched cereals did not become ill as often as babies who did not consume these prebiotics.³ They had much fewer infections, fever and vomiting. Further, they also did not need to see the doctor or take antibiotic medication as often.

Children who are older than 2 years also benefit from consuming prebiotics. Results from another study confirmed that kindergarten children aged 3-6 years had stronger immunity when they consumed the prebiotic oligofructose-inulin blend from the chicory root daily (6 grams/day) compared to children who consumed the maltodextrin placebo.⁴ This study was conducted over 6 months during the cold season, which is the time where there is a higher rate of flu infections.

Children who consumed the prebiotics had higher numbers of beneficial bifidobacteria in the gut, much lower rates of infections with fever, sinus infections, and also had an improved digestive health.⁴

In this study, some children were on antibiotic medication for their infections. While antibiotic medication helps to destroy the bad microbes causing the infections, it also harms good gut bacteria. Impressively, children who consumed prebiotic oligofructose-inulin blend had significantly higher and more stable levels of bifidobacteria despite taking antibiotic medication.⁵



Strengthening immunity in adults

Just like babies and children, adults also need a strong immune system. The beneficial gut microbes together with the short-chain fatty acids produced play an important role in regulating the immune system and strengthening the gut barrier¹.

Prebiotic inulin and oligofructose from the chicory root are special nutrients that help our immune system in many ways. These prebiotics not only improve the numbers of beneficial bifidobacteria in adults¹, they even reduce the potential gut pathogen *Bilophila* bacteria.⁶ They also help strengthen our gut which is the protective barrier to the outside world.¹ Prebiotic chicory root fibres have been found to increase the activity of certain immune cells⁷ and help reduce diarrhoea caused by pathogenic bacteria.⁸ In addition, prebiotic chicory root fibres reduce inflammation.¹ Inflammation means that the body's immune system has lost control.

This makes it all the more important to consume these special prebiotic chicory root fibres for better immune health. We can get prebiotic chicory root fibres in various products, including dairy, yoghurt, baked goods, cereals and snacks.

Prebiotics supporting gut microbes, gut health and more

Prebiotic oligofructose and inulin are nutrients for good gut microbes, and are beneficial for all age groups, including babies, children and adults. Good gut microbes play an important role in strengthening our immunity from birth to adulthood.

In fact, prebiotic oligofructose and inulin from the chicory root benefit our health in so many ways – from increasing the good microbes in our gut, reducing harmful gut microbes, supporting and strengthening the immunity, improving digestive health, helping in blood glucose management, and more!



References

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