Prebiotic chicory root fibre maintains microbiota balance in children – even following antibiotic treatment

A new study¹ demonstrates that daily consumption of chicory root fibre in children aged 3 to 6 years, can keep the level of bifidobacteria higher and more stable, also during antibiotic treatment.

The study, conducted by Prof Tamás Decsi, University of Pécs, Department of Paediatrics, Clinical Center of the University of Pécs, Medical School in Hungary, is the first of its kind to provide an in-depth investigation into the effect of prebiotic chicory root fibre supplementation on the gut microbiota composition of children aged 3 to 6 years, including those undertaking antibiotic treatment.

Anke Sentko, Vice President Regulatory Affairs and Nutrition Communication at BENE0, commented: “Young children are particularly susceptible to infectious diseases during the winter months that often need to be treated with antibiotics, which are known to significantly damage the microbiota. This kind of early disturbance of the microbiota composition can create an imbalance in the gut which may affect health in later years.”

Using state-of-the-art methodology and a randomised, double-blind, parallel, placebo-controlled trial, the study examined the supplementation of 6g chicory root fibre (composition of Orafti® Inulin and Orafti® Oligofructose), using maltodextrin as the control, amongst 258 healthy children aged 3 to 6 years, over a 24-week period during winter.

The findings showed that regular consumption of prebiotic chicory root fibre keeps the level of beneficial bifidobacteria higher and more stable, reducing the antibiotic-induced disturbances of the microbiota composition. In general, the children undergoing antibiotic treatment showed a reduction of microbiota, including bifidobacteria. However, those

children also receiving the prebiotic supplementation demonstrated a significantly higher presence of bifidobacteria versus the control.

The results build on a previous publication\(^2\) which demonstrated significantly reduced fibril episodes and sinusitis cases resulting from prebiotic chicory root fibre supplementation in young children, aged between 3 and 6 years old.

Anke Sentko continued: “The recently published results prove that prebiotic chicory root fibre intake selectively increases beneficial bifidobacteria in children aged 3 to 6 years old. Even under antibiotic treatment, their microbiota is more stable and balanced. Enriching a child’s nutrition with prebiotic chicory root fibre (inulin and oligofructose) is an easy and tasty way to boost their inner defence by supporting their beneficial bacteria.”

Inulin and oligofructose are the only plant-based prebiotics clinically proven. There is a wealth of research supporting the beneficial impact of BENEÖ’s prebiotic chicory root fibres in promoting good bacteria in the gut and creating a more favourable environment in the large intestine. These fibres are the preferred nutrients for beneficial gut bacteria and therefore encourage positive modulation of the microbiota composition to take place.

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The BENEÖ-Institute is an organization which brings together BENEÖ’s expertise from Nutrition Science and Legislation teams. It acts as an advisory body for customers and partners reaching from ingredient approval, physiological effects and nutritional composition to communication and labelling. The key nutritional topics of the BENEÖ-Institute’s work include weight management, digestive health, bone health, physical and mental performance, the effects of a low glycaemic diet as well as dental health.

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The BENEO-Institute facilitates access to the latest scientific research and knowledge throughout all nutritional and regulatory topics related to BENEO ingredients. It provides BENEO customers and partners with substantiated guidance for some of the most critical questions in the food industry. BENEO is a division of the Südzucker Group that employs more than 1,000 people and has production units in Belgium, Chile, Germany and Italy.

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