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Overview of Human Research on Bimuno[®] Prebiotic Supplements

The prebiotic supplement Bimuno is the result of over 20 years of scientific research, developed in collaboration with world renowned universities including University of Reading, King's College London and Oxford University.

Studies have demonstrated that beneficial bacteria such as bifidobacteria are selectively grown in the large intestine as a result of Bimuno GOS supplementation. Bimuno® (also referred to as B-GOS® in published studies) stimulates proliferation of good gut bacteria in healthy adult populations (Depeint et al., 2008, Vulevic et al., 2008 and 2015), individuals with IBS (Silk et al., 2009, Huaman et al., 2018) and obese adults (Vulevic et al., 2013, Sergeev et al., 2020).

The efficacy and safety of Bimuno is supported by over 100 scientific publications, including over 20 clinical trials. The supplement has been clinically shown to improve gastrointestinal health and associated quality of life, strengthen anti-pathogenic activity, improve immune function and cognitive health and wellbeing (stress, mood and anxiety).

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Digestive Discomfort Bloating, Flatulence and associated

Bimuno[®] has been shown to reduce the physical effects of digestive discomfort (Silk et al., 2009, Vulevic et al., 2018 Huaman et al., 2018, Wilson et al., 2020).

Clinical research using Bimuno has shown that it relieves flatulence, bloating and abdominal pain in individuals who experience gastrointestinal discomfort and leads to a significant reduction in urgency (Vulevic *et al.*, 2018). In addition, Bimuno also has a positive effect on improving bowel habits in individuals with IBS (Wilson et al., 2020) and maintaining regularity in healthy individuals (Drakoularakou et al., 2010).

It's important to note that by specifically targetting bifidobacteria (which do not contribute to gas production), Bimuno does not lead to increased gas (Mego et al., 2017), which could be a concern for some individuals.

People who experience digestive discomfort are often advised by nutrition professionals to temporarily follow a restrictive diet which avoids fermentable (FODMAP) foods. Whilst this approach often yields short term benefits, a low FODMAP diet has a number of challenges as it can alter the gut microbiota, impact nutrient intake and diet quality, is complex to understand, requires the patient to be adequately supported to follow the diet accurately and safely, and lastly, not all patients respond to the diet¹.

People who experience digestive discomfort respond more favourably to Bimuno GOS² compared to inulin type prebiotics which may aggrevate gastrointestinal symptoms.



Studies have shown that Bimuno reduces the adhesion of pathogens to gut cells and increases certain internally secreted substances to prevent invasion of pathogens. This strongly suggests a positive effect by Bimuno on the innate immune system. This effect is reflected in studies (Drakoularakou et al., 2010, Hasle et al., 2017) where Bimuno was shown to reduce incidence of diarrhoea caused by pathogens.

1 Wilson et al., 2020, Challenaes of the low FODMAP diet for managing irritable bowel syndrome and approaches to their minimisation and mitigation. The Nutrition Society Winter Meeting, Royal Society of Medicine, London, 2-4 December 2019, doi:10.1017/S0029665120006990 2 Wilson et al., 2019. Prebiotics in irritable bowel syndrome and other functional bowel disorders in adults A systematic review and meta-analysis of randomized controlled trials. DOI: 10.1093/ajcn/nqy376



Immunity can be affected by lifestyle, stress, poor nutrition and it also changes as people age. Particularly with ageing, the decline of immune function - so called immunosenescence – may start to play a bigger role and can affect all parts of the immune system making a person more prone to getting ill. Bimuno provides diverse benefits to the immune system. It improves immune resilience in the elderly (Vulevic et al., 2008, 2015), improves low-grade chronic inflammation in the overweight (Vulevic et al., 2013) and decreases asthma-associated pro-inflammatory cytokines (Williams et al., 2016). Bimuno improves the level of anti-inflammatory cytokines and decreases the level of proinflammatory cytokines.

As many athletes experience GI problems and exerciseinduced asthma, application of Bimuno to a physically active population could be advantageous. In addition, typically many athletes follow a high-protein, low-fibre diet so supplementation of Bimuno could help bridge the fibre gap.



Modulation of the aut microbiome has also been demonstrated to affect behaviour, mood and cognition through the gut-brain axis. Bimuno supplementation has been shown to reduce stress through decreasing cortisol levels in healthy individuals (Schmidt et al., 2015), impacting on their **attention and mood**.

In another study involving autistic children, supplementation with Bimuno led to significant improvements in social skills (Grimaldi et al., 2018).

In an IBS cohort, Bimuno supplementation reduced anxiety and improved quality of life (Silk et al., 2009).

The tables show a full reference of the preclinical and clinical research undertaken on Bimuno®



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