Potency is more than just a number

Beyond simple CFU count, Omni-Biotic® targeted probiotics are built to perform

- Stress Management
- Microbiome Restoration
- Balanced Immune Response
- Liver Function & Detoxification
- Infant Immune & Microbiome Development

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Gut-Brain Axis

Title	*Influence of 4-Week Multi-Strain Probiotic Administration on Resting-State Functional Connectivity in Healthy Volunteers*
Year of Publication	2019
Study Type	Double blind, randomized controlled trial
Summary	This study used a double-blind, randomized, pre- and post-intervention assessment design to investigate the effects of a 4-week multi-strain probiotic administration on whole-brain functional and structural connectivity in healthy volunteers. Forty-five healthy volunteers were recruited and divided equally into three groups (PRP: probiotic, PLP: placebo, and CON: control). All the participants underwent resting-state functional MRI and diffusion MRI brain scans twice during the course of study. Functional connectivity changes were observed in the default mode network, salience network, and middle and superior frontal gyrus network in the PRP group. Results support the contention that the communication between gut microbiota and brain is a dynamic process, which can be modulated by a targeted intervention, leading to changes in behaviour and brain function.

Title	*Effects of an Oral Synbiotic on the Gastrointestinal Immune System and Microbiota in Patients with Diarrhea-Predominant Irritable Bowel Syndrome*
Year of Publication	2019
Study Type	Observational trial
Summary	This study investigated the effects of a 4-week oral synbiotic treatment in ten IBS-D patients. The upper and lower gastrointestinal tracts were compared before and after intervention using endoscopic evaluation to collect mucosal specimens for FACS analysis and mucosal 16S rRNA gene analysis. In stool samples, analysis for fecal SCFAs using GC–MS, fecal zonulin using ELISA, and fecal 16S rRNA gene analysis was performed. Findings demonstrated an increased microbial diversity in gastric and duodenal mucosal specimens in the treatment group. FACS analysis of mucosal immune cells showed a treatment-induced reduction of CD4+ T cells in the ascending colon. Short-chain fatty acids and butyrate were elevated in fecal samples after treatment. Furthermore, treatment was accompanied by a reduction of fecal zonulin concentration and disease severity measured by IBS-SSS.

Gut-Brain Axis

Title	*Probiotics Drive Gut Microbiome Triggering Emotional Brain Signatures*
Year of Publication	2018
Study Type	Double blind, randomized controlled trial
Summary	This double-blind, placebo-controlled randomised study aimed at investigating the effects of 4 weeks' probiotic administration on behavior, brain function and gut microbial composition in healthy volunteers. Forty-five healthy participants divided equally into three groups (probiotic, placebo and no intervention) underwent functional MRI. In addition, stool samples were collected to investigate the gut microbial composition. Probiotic administration for 4 weeks was associated with changes in brain activation patterns in response to emotional memory and emotional decision-making tasks, which were also accompanied by subtle shifts in gut microbiome profile. Microbiome composition mirrored self-reported behavioral measures and memory performance.

Title	*The Gut-Brain Axis: How Microbiota and Host Inflammasome Influence Brain Physiology and Pathology*
Year of Publication	2020
Study Type	Review article
Summary	Evidence suggests that there is a reciprocal influence of microbiota and inflammasome activation in the brain. In this review article, the authors discuss the current understanding of the gut-brain axis, focusing on the function of intestinal microbial metabolites on CNS cells during healthy and inflammatory conditions, such as multiple sclerosis, Alzheimer's disease, Parkinson's diseases, and neuropsychiatric disorders.

Gut-Liver Axis

Title	*Effects of a 6-Month Multi-Strain Probiotics Supplementation in Endotoxemic, Inflammatory and Cardiometabolic Status of T2DM Patients: A Randomized, Double-Blind, Placebo-Controlled Trial*
Year of Publication	2018
Study Type	Double blind, randomized controlled trial
Summary	In this study, 31 adult, naïve T2DM patients were randomized to receive probiotic or placebo in a double-blind manner over a 6 month period. Anthropometrics were measured and fasting blood samples were collected to analyze endotoxin and glycemic parameters after 3 and 6 months of intervention. At 6 months, the treatment group demonstrated a significant decrease in circulating levels of endotoxin, glucose, insulin, HOMA-IR (homeostatic model assessment of insulin resistance), triglycerides, total cholesterol, total/HDL-cholesterol ratio, TNF-α, IL-6, CRP, and resistin, with a significant increase in adiponectin as compared with baseline.

Title	*Effects of a Multi-Strain Probiotic Supplement for 12 Weeks in Circulating Endotoxin Levels and Cardiometabolic Profiles of Medication Naïve T2DM Patients: A Randomized Clinical Trial*
Year of Publication	2017
Study Type	Double blind, randomized controlled trial
Summary	In this study, 78 adult, naïve T2DM patients were randomized to receive probiotic or placebo in a double-blind manner for 12 weeks. Anthropometrics and cardiometabolic profiles were obtained at baseline and after 12/13 weeks of treatment. Compared with the placebo group, the treatment group had a significant improvement in WHR (waist hip ratio) as well as a clinically significant improvement in HOMA-IR (homeostatic model assessment of insulin resistance).

Gut-Liver Axis

Title	*Randomized Clinical Trial: The Effects of a Multispecies Probiotic vs. Placebo on Innate Immune Function, Bacterial Translocation and Gut Permeability in Patients with Cirrhosis*
Year of Publication	2016
Study Type	Double blind, randomized controlled trial
Summary	In this randomised, double blind, placebo-controlled study, stable cirrhotic out-patients either received a probiotic or placebo for 6 months and were followed up for another 6 months. Findings included a significant increase in neutrophil resting burst and neopterin levels in the treatment group. These findings might explain the beneficial effects of probiotics on immune function. Liver function also showed improvement with probiotics but not with placebo.

Title	*The Gut-Liver Axis in Liver Disease: Pathophysiological Basis for Therapy*
Year of Publication	2019
Study Type	Review article
Summary	In this review article, the authors discuss the evidence indicative of the pathogenetic role of microbe-derived metabolites, secondary bile acids, short-chain fatty acids and ethanol, in the pathogenesis of non-alcoholic fatty liver disease. Beyond antibiotics, they also review new therapies centered on the gut including new generations of probiotics, bacterial metabolites, faecal microbial transplantation, and carbon nanoparticles.

Gut Restoration and Immunity

Title	*Effect of a Multispecies Probiotic on Intestinal and Skin Colonization by Multidrug-Resistant Gram-Negative Bacteria in Patients in a Long-Term Care Facility*
Year of Publication	2020
Study Type	Pilot trial
Summary	Patients colonized by multidrug-resistant Gram-negative bacteria received a 12 week oral probiotic course. Inguinal swabs and stool samples were collected during and after treatment for microbiological and microbiome analysis. The median age of patients was 76 years. Twelve patients completed the pilot study. Intestinal colonization was reduced to 42% of patients 8 weeks after the end of treatment, but increased to 66% 24 weeks after the end of probiotic treatment. Colonization of inguinal skin was lowest during probiotic treatment and increased thereafter.

Title	*Probiotics Use for Antibiotic Associated Diarrhea: A Pragmatic Participatory Evaluation in Nursing Homes*
Year of Publication	2020
Study Type	Observational trial
Summary	Probiotics administration was implemented in three nursing homes for residents with somatic and/or psychogeriatric conditions. A multispecies probiotics was administered twice daily upon start of antibiotic treatment and up to 1 week after completing the antibiotics course. The number of episodes with AAD when using probiotics was significantly lower than when no probiotics were administered.

Gut Restoration and Immunity

Title	*Interaction Between Microbiota and Immunity in Health and Disease*
Year of Publication	2020
Study Type	Review article
Summary	In this review article, the authors discuss the microbiome's role in the training and development of the host's innate and adaptive immune system. The immune system's orchestratration of host-microbe symbiosis is also explored.

Title	*Homeostatic Immunity and the Microbiota*
Year of Publication	2017
Study Type	Review article
Summary	This review article explores the roles the microbiome plays in the development and function of the immune system.

Prenatal Development

Title	*Probiotic Supplementation Influences Faecal Short Chain Fatty Acids in Infants at High Risk for Eczema*
Year of Publication	2015
Study Type	Double blind, randomized controlled trial
Summary	In this follow-on study, metabolites in faecal samples of 3-month old children were measured by (1)H-nuclear magnetic resonance to investigate possible gut metabolic alterations. Lower amounts of short-chain fatty acids, succinate, phenylalanine, and alanine were found in faecal samples of children later developing eczema, whereas the amounts of glucose, galactose, lactate and lactose were higher compared to the children not developing eczema. Although these differences were already present at the age of 3 months, eczema did not develop in the majority of children before the age of 1 year. Supplementation of multispecies probiotics seems to induce higher levels of lactate and SCFAs, and lower levels of lactose and succinate when compared with the placebo group.

Title	*The Effects of Selected Probiotic Strains on the Development of Eczema (the PandA study)*
Year of Publication	2009
Study Type	Double blind, randomized controlled trial
Summary	In this double-blind, randomized, placebo-controlled trial, probiotics were prenatally administered to mothers of high-risk children (i.e. positive family history of allergic disease) and to their offspring for the first 12 months of life. Parental-reported eczema during the first 3 months of life was significantly lower in the intervention group compared with placebo. Cumulative incidence of parental-reported eczema at 1 and 2 years was 23/50 (intervention) vs 31/48 (placebo) and 27 (intervention) vs 34 (placebo), respectively. The intervention group was significantly more frequently colonized with higher numbers of Lc. lactis. Furthermore, at age 3 months, in vitro production of IL-5 was decreased in the probiotic-group compared with the placebo-group. The probiotic bacteria shows a preventive effect on the incidence of eczema in high-risk children, which seems to be sustained during the first 2 years of life.

Product Listing

Omni-Biotic® Targeted Probiotics

- Omni-Biotic AB 10
  Microbiome restoration
- Omni-Biotic Balance
  Microbiome modulated immune support
- Omni-Biotic Hetox
  Gut-liver axis management and detoxification
- Omni-Biotic PandA
  Prenatal and infant microbiome and immune support
- Omni-Biotic Stress Release
  Psychobiotic stress management

Omni-Logic® Precision Prebiotics

- Omni-Logic Immune
  Lactic acid bacteria-targeted nutrition for optimal immune support
- Omni-Logic Plus
  Akkermansia spp. targeted nutrition for metabolism and weight management support

SIGNIFICANCE
Deeply characterized strains

SYNERGY
Clinically demonstrated outcomes

SURVIVAL
Proven gastric survival

OMNi BiOTiC®

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