

# Gut learning

Q&A with Jordi Riera, Kaneka Probiotics

Scientific understanding of the microbiome is rapidly growing, as is understanding of its role in human health across systems via various axes, yet few consumers understand it. By 2022 NBJ research, 60% of consumers consider themselves unfamiliar or not-at-all familiar with the term. To learn more about what's on the horizon—and what's not connecting with consumers—we reached out to Jordi Riera who, as chief business development manager at Kaneka Probiotics, links innovation and product development processes with sales, marketing, and educational needs. In his career, Riera has been responsible for the launch of over 250 probiotic products in more than 90 markets worldwide.

**NBJ:** What is the microbiome market of the future?

**Riera:** To answer this question, we need to frame what “microbiome” market means. Microbiome products involve not only live bacteria (probiotic foods and supplements) but also prebiotics and postbiotics. Beyond that, we see application of pre/pro/postbiotics in other areas such as cosmetic products and medical devices (suppositories, eyedrops and more). Even live biotherapeutics (LBTs) just opened the door with the approval by FDA of Ferring's first-in-class fecal microbiota drug Rebyota! We are part of a fast-moving and extremely dynamic microbiome ecosystem.

**NBJ:** Will consumers be able to grasp the microbiome?

**Riera:** That's the crucial question. The market is driven by consumers, and consumers are struggling to understand and catch up to this movement. To give you an example, while science shows that the gut is home for nearly 70% of the immune system, a survey conducted in 2021, by KRC Research for Danone to over 1,000 consumers, showed that only 25% of responders recognize the value of probi-

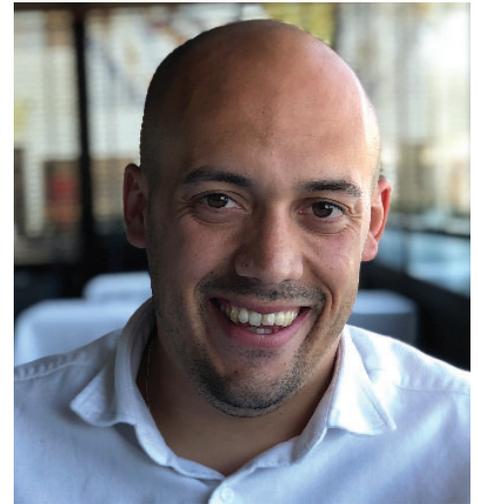
otics for helping immune system (versus 59% recognizing the value for vitamin C and 49% for vitamin D). The same survey identified, however, that up to 67% of the consumers understand that probiotics can play a role helping in their overall health. Another survey conducted by Chr Hansen to 16,000 consumers showed that two-thirds of the responders are somehow familiar with the benefits of probiotics and that up to 71% would like to learn more about probiotics. Consumers are eager to buy, take and learn about probiotics, and they trust that probiotic products can be of help, but they are struggling to access information and get educated.

Concerning the U.S. market—as being part of a self-regulated industry—manufacturers, retailers, and brands should act responsibly, delivering products with a clinically substantiated benefit in the dose and form of administration, with the appropriate quality (stable along the shelf life) and with an appropriate promise of benefits in their front-label claims and communication. One contribution to this attitude would be to get off the link between probiotic “potency” and “concentration” (amount of CFU per serving). A higher CFU count doesn't make a product more potent and stronger. Better and higher quality strains do.

**NBJ:** Most assessments have the U.S. probiotics market flattening over recent and coming years. Is there something in the science that's not reaching the consumer?

**Riera:** We can analyze this forecast from different perspectives, such as the macroeconomic environment, post-pandemic consumer dynamics (correction in consumer demand), market saturation, etc. But we as industry stakeholders shall take a responsibility on this trend in North America, particularly for playing a game of commercial greed around installing the idea of high CFU count products.

Consumers are wise and building up



category growth around a false promise of efficacy and quality can only result in a loss of trust from the market and a decline in the future sales figures. It would be interesting to analyze the market dynamic not only from the aggregate growth of the probiotic category but also from what kinds of products are gaining interest from consumers and which products are losing it. Are consumers showing a higher interest and loyalty for clinically substantiated products? Is consumer interest higher for condition-specific strains rather than bulky multi-strain combinations? Therefore, we at Kaneka want to draw a line between “probiotics” and “precision probiotics” as a way to push into the market science-backed strains with an adequate level of evidence and with claims that can be substantiated—not just with a P-value but from consumers noticing the effect. We believe that consumers should know that not all strains and probiotic products are the same.

**NBJ:** What's a little-known technology today that might be top-of-mind in the biotics marketplace in the future?

**Riera:** On one hand, LBTs represent a huge opportunity for novel microbiome

therapies, from fecal transplantation to novel species or GMO microorganisms to be used in treating disease. However, staying in the field of dietary supplements, new techniques such as data science may help identify novel mechanisms of action that can allow us to then identify better probiotic bacteria in more uses. Two examples of that are gut-brain axis and immune health. While gut-brain axis was established many years ago as a hypothesis, these days we know more and more about the role of microbiota in modulating mood and brain function. For example, *Lactiplantibacillus plantarum* DR7 is a strain that has been developed to improve brain and immune function. In different research works (Chong et al., 2019, Altadill et al., 2021), it has been described that *L. plantarum* DR7 may potentially modulate serotonin and dopamine pathways, explaining how it shows an impact on mood and stress and supports upper respiratory tract health, such as nasal, throat, general routine cold symptoms. It has been the first probiotic strain to clinically show the correlation between gut microbiota changes and brain neurotransmitters' genes resulting in a decrease in cortisol levels. Without the basic science work describing such pathways, we would hardly find this strain. Another example is

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immune health. While it has been widely described that many probiotics can help the immune system and response, during our research around probiotics applied to COVID-19 we found a strain (AB21®), thanks to a bioinformatic algorithm, that is genetically capable to modulate the body's immune response through Interferon type-I. This is a first-time discovery! And it's all thanks to basic research conducted in the early 2000's.

**NBJ:** Given the vastness (and unknowns) of the microbiome, where do you see the biggest opportunities for the market?

**Riera:** In my opinion, it is great news that more and more people know that the microbes that live within our bodies are

not just passengers or “stowaways” within our bodies. Microbiota is an organ within our body, an ecosystem of symbionts that help our body physiology, condition our nutrition and response to drugs. Microbiota determines how easily we are going to lose weight or recover from workouts; if we are going to have cavities frequently or if we have healthy looking skin. Microbiota may influence the hormone balance and influence fertility and menopause, and microbiota imprinting can be carried to next generations, from mother to child. The limits are unknown regarding how influencing, in a precise manner, our microbiota can improve our overall health. Basic research is still drafting new paths for probiotics to bring in new health benefits to consumers. 🌱