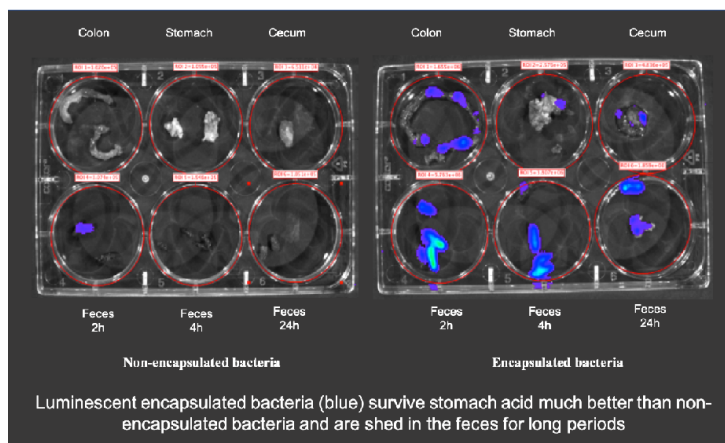


Austrianova's Bac-in-a-Box® technology protects probiotics from stomach acid

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Austrianova announced on 30 Nov 2020 that a key publication on the ability of its patented technology, Bac-in-a-Box®, to protect probiotics from acidic conditions found in the stomach has been published in the well respected journal *Microbial Cell Factories*; <https://rdcu.be/cbn0O>.



Acid protective properties of Bac-in-a-Box published in *Microbial Cell Factories* highlighting its enhanced and more efficacious delivery of probiotics as well as of oral living vaccines

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The stringently reviewed data presented in the paper show that Bac-in-a-Box® protects micro-organisms (including probiotics) from stomach acid and bile, enabling them to reach the intestine in a viable state, thereby resulting in a greater beneficial effect. It also allows the use of much lower doses thus contributing to cost effectiveness. Thus, Bac-in-a-Box® is ideal for enhanced and more efficacious delivery of probiotics as well as of oral living vaccines, and it can even be used for microbial fecal transplantation (bacteriotherapy) where it provides a more patient friendly and acceptable means of delivering microbiota.

Brian Salmons, CEO of Austrianova, said "We are pleased that our publication on acid protection of encapsulated microbes has been published in *Microbial Cell Factories*, an open access, peer-reviewed journal, published by Springer Nature, that is the world-leading, primary research journal fully focusing on Applied Microbiology."

Elaborating on the significance of the paper, Prof Walter H. Gunzburg said "The gut microbiota in humans and animals plays a key role in health by aiding digestion as well as regulating the immune system and protecting against disease causing pathogens. In recent years, changes or imbalances in the gut microbiota (dysbiosis) have been linked to many diseases as disparate as irritable bowel syndrome, dementia and diabetes, and evidence is growing that restoring the balance of the microbiota by delivery of probiotic micro-organisms can improve health. Orally delivered micro-organisms must survive transit

through lethal, highly acid conditions in the stomach and current methods to protect probiotic microorganisms are still not effective enough.

This paper reports that Austrianova's proprietary encapsulation technology, Bac-in-a-Box[®], protects members of the microbiota from stomach acid and bile. A number of probiotic strains were shown to survive low pH *in vitro* for at least 4 hours without appreciable loss in viability as compared to their respective non-encapsulated counterparts. Moreover, animal studies reveals that once the capsules arrive in the intestine (the site where they are needed to have beneficial effects), the probiotics are released and colonize the intestinal tract. Thus, Bac-in-a-Box[®] protects bacteria and yeasts from viability losses due to stomach acid, allowing the use of lower oral doses of probiotics and microbiota, whilst ensuring good intestinal delivery and release."