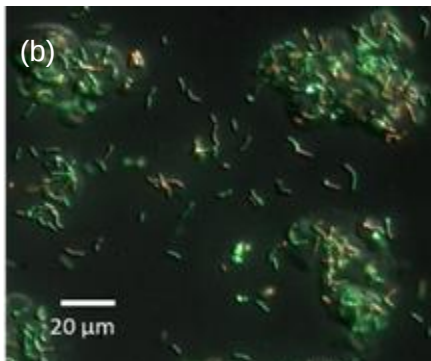
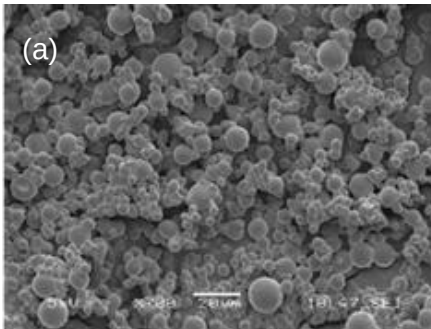


Microencapsulation for Delivering Probiotics to Gut

TECHNOLOGY OVERVIEW

Conventional probiotics often lose viability during shelf storage and upon ingestion, especially during their transit through the gastric region. This industrially scalable microencapsulation technology can improve probiotics' shelf life and maintain the intended functional viability beyond the human upper gastrointestinal tract.

The encapsulated probiotic product achieves qualities of gastroprotection and targeted release in the intestinal region, boosting the overall beneficial effects of probiotics on gut health. Spray-dried probiotic powder derived from this technology can be used as dietary supplements or functional food additives for human and animal consumption.



Lactobacillus rhamnosus GG (LGG) (a) encapsulated in microparticles and (b) after Simulated Gastric Fluid (SGF) exposure

FEATURES & SPECIFICATIONS

- Patented microencapsulation method for crosslinked dried live microorganism powder production
- Uses food safe and Generally Regarded as Safe (GRAS) materials
- Scalable spray drying process
- Extended functional performance
- Gastro-protected for targeted and improved probiotics delivery, viability and efficacy

MARKET TRENDS & OPPORTUNITIES

- The probiotics market was valued at US\$58 billion in 2021 and is projected to grow at a CAGR of 7.5% through 2030. The rising importance of human gut health has driven the probiotics-based product development.
- This technology is versatile and non-selective making it attractive for functional food and beverage, pharmaceutical, dairy and animal nutrition applications.

POTENTIAL APPLICATIONS

- Food & Beverage
- Supplement & Pharmaceutical
- Animal Feed