



Food Research Lab  
A Unit of **guires**  
we make it happen.

# BOTH LIVE AND DEAD BACTERIA PROVIDED SIMILAR HEALTH BENEFITS FOR DOG

An Academic presentation by  
Dr. Nancy Agnes, Head, Technical Operations,  
FoodResearchLab  
Group: [www.foodresearchlab.com](http://www.foodresearchlab.com)  
Email: [info@foodresearchlab.com](mailto:info@foodresearchlab.com)

FOODRESEARCHLAB



## FRL'S APPROACH TO INNOVATIVE CANINE GUT HEALTH SOLUTIONS: PROBIOTICS AND POSTBIOTICS



### REVOLUTIONIZING CANINE NUTRITION WITH BIFIDOBACTERIUM SOLUTIONS

- Bifidobacterium, a Gram-positive, often branched anaerobic bacteria, has been widely utilized in the food industry for its gut health benefits.
- This genus includes various strains, such as Bifidobacterium breve and Bifidobacterium animalis, which have proven benefits on gastrointestinal health.
- Studies show these microorganisms help stabilize gut function, regulate the immune response, and protect against pathogenic bacteria (Tojo et al., 2014; Rivière et al., 2016).
- Recent advancements (published in The Journal of Animal Science) now reveal that even heat-treated or inactivated (postbiotic) forms of these bacteria continue to benefit gut health.

**CONTD.....**



making them ideal for the pet food sector, where processing conditions can challenge live probiotic viability.

## FRL'S EXPERTISE IN ANIMAL NUTRITION: TAILORED SOLUTIONS FOR PET FOOD FORMULATION

- As an R&D and contract formulation partner, Food Research Lab (FRL) offers [sourcing](#), [procurement](#), and formulation expertise to help manufacturers incorporate scientifically validated probiotics and postbiotics like *Bifidobacterium animalis* subsp.
- *lactis* CECT 8145 (BPLI™) into pet foods and supplements. Leveraging our deep expertise in animal nutrition, FRL provides solutions that ensure the stability and efficacy of both live and heat-treated strains in canine products.

**CONTD.....**





Through tailored formulations, we address the unique processing requirements of pet food products, enabling manufacturers to achieve optimal health outcomes for pets.

## PROBIOTICS AND POSTBIOTICS IN CANINE HEALTH

FRL recognizes the growing demand for functional pet food ingredients that support gut health. Bifidobacterium animalis, both in its live and postbiotic forms, has shown multiple health benefits for dogs, including:

- Improved Fecal Health: Research shows that supplementation with BPLI™, either live or heat-treated, maintains fecal health without negatively affecting stool quality.

**CONTD.....**







- **Enhanced Microbiome Diversity:** Both forms of BPLI™ have been associated with favorable shifts in bacterial composition at the family and genus levels, contributing to a healthy gut environment.
- **Reduced Fecal pH:** Dogs receiving postbiotic forms of BPLI™ exhibited lower fecal pH, indicative of an environment conducive to beneficial bacteria.
- **Increased Short-Chain Fatty Acids (SCFAs):** Notably, both live and postbiotic BPLI™ increased fecal propionate concentrations, an SCFA with anti-inflammatory properties and other health benefits.



Food Research Lab  
A Unit of **guires**  
By Science Happens

**FOODRESEARCHLAB**



# TAILORING PROBIOTIC AND POSTBIOTIC PET FORMULATIONS

FRL's team of animal nutritionists and food scientists customizes formulations to retain the efficacy of probiotics and postbiotics despite harsh manufacturing conditions. We offer support in:

- **Sourcing High-Quality Probiotics and Postbiotics:** FRL ensures reliable sourcing of ingredients like BPLI™ through trusted suppliers, guaranteeing the quality and safety of all strains. We manage all procurement aspects, ensuring ingredients meet regulatory standards and desired potency levels.
- **Formulation Expertise:** Our R&D team develops stable and effective formulations for probiotics and postbiotics in canine foods, addressing challenges like heat sensitivity during manufacturing. By leveraging inactivated postbiotics, FRL enables flexibility in processing, particularly for products requiring high-temperature treatments.

**CONTD.....**



Customization and Testing: FRL adapts formulations to various pet food formats, from dry kibbles to wet food and supplements, and conducts rigorous testing to validate stability, shelf life, and health benefits. Our scientific team also measures functional properties, such as short-chain fatty acid production and gut microbiome changes, ensuring optimal health outcomes.

## KEY HEALTH BENEFITS: INSIGHTS FROM RECENT RESEARCH

Research has underscored several beneficial outcomes of BPLI™ supplementation in dogs. FRL can help clients harness these advantages by incorporating both probiotic and postbiotic forms:

HEALTH PARAMETER	OBSERVED OUTCOMES
Fecal Short-Chain Fatty Acids	Increase in propionate, supporting anti-inflammatory responses.
Microbiome Composition	Favorable shifts in microbial diversity and metabolic pathways.
Fecal pH	Lower pH observed with postbiotics, promoting beneficial bacteria.



## Prebiotics

Food for bacteria

Serve as food for intestinal bacteria and produce energy for intestinal cells

Plant fibers that can be easily added to pet foods or given as supplements

## Synbiotics

Combination of a probiotic and a prebiotic

Available as supplements

Not added to foods

## Probiotics

Live bacteria

Used to help adjust intestinal bacterial population

Difficult to add to foods

Available as supplements





HEALTH PARAMETER	OBSERVED OUTCOMES
Hormonal Biomarkers	Enhanced leptin expression in live probiotic groups, potentially aiding immune function.
Inflammatory Markers	Stable markers, highlighting the safety and non-reactivity of BPLI™.

## ADDRESSING MANUFACTURING CHALLENGES WITH POSTBIOTICS

For pet food processors, live probiotics pose viability challenges due to high-temperature processes like extrusion. Postbiotics, as inanimate forms of beneficial bacteria, provide a solution without compromising pet health benefits. By choosing postbiotics, pet food manufacturers can avoid costly modifications in processing to accommodate live strains, making production smoother while maintaining the functional benefits of probiotics.





## FAQS ON PROBIOTICS & POSTBIOTICS IN CANINE HEALTH

**Q: What are the primary benefits of postbiotics compared to live probiotics in pet food?**

A: Postbiotics are heat-stable, making them easier to integrate into pet foods without special processing. They offer similar health benefits as live probiotics, such as improved gut health and immune support, without concerns about viability loss during manufacturing.



**Q: Can FRL help in testing the efficacy of these probiotics or postbiotics in canine products?**

A: Yes, FRL provides testing services to assess the functional impact of both live and inactivated strains on gut health parameters, including microbiome analysis and SCFA production.

**Q: How does FRL ensure quality control in sourcing probiotics and postbiotics?**

A: FRL partners with trusted suppliers and conducts stringent quality checks to ensure each batch of probiotics and postbiotics meets industry standards for purity, potency, and safety.



## PARTNER WITH FRL FOR INNOVATIVE CANINE NUTRITION SOLUTIONS

As a leading provider in the animal nutrition sector, FRL is committed to advancing gut health formulations with cutting-edge ingredients like BPLI™. Our comprehensive approach includes ingredient sourcing, customized formulation, stability testing, and regulatory guidance. Let FRL help you create next-generation pet food solutions that meet consumer demand for functional, health-promoting ingredients without compromising on manufacturing efficiency.



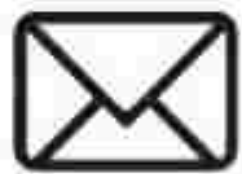
# CONTACT US



UNITED KINGDOM  
**+44- 161 394 1144**



INDIA  
**+91 9566299022**



EMAIL  
**info@foodresearchlab.com**

