



## Bactana broadens microbiome discovery platform, adds postbiotic pipeline

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Companion Animals, Food Animals



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Bactana is getting closer to bringing its first product to market and finding new uses for its microbiome discovery platform.

The firm's core product initiative – FPS – is based on a naturally occurring collection of 'pioneer gut colonizers' selected from the *Faecalibacterium prausnitzii* bacteria species. In 2018, Bactana received its initial equity financing to develop novel probiotics for ruminants.

More recently, the company expanded its efforts by building a microbiome discovery and testing platform to isolate and test peptides, fatty acids, and other small molecules (postbiotics) excreted by its library of commensal anaerobic bacteria. The firm is developing products intended for administration to both food animals and companion animals.

John Kallassy – Bactana's chief executive – told IHS Markit Animal Health: "During our first two years, we concentrated mostly on developing a product based on a single probiotic for dairy calves. During this period, we developed expertise in performing microbial *in vitro* and *in vivo* trials, as well as advanced strain and metabolite isolation techniques, which we are now leveraging into a broad product discovery platform. We plan to see at least one product on the market in late 2021 or early 2022."

The Farmington, Connecticut-based company is currently seeking commercial collaborators interested in expanding their microbial based product lines. The firm recently opened a subsidiary on Canada's Prince Edward Island to expand its anaerobic fermentation and formulation abilities.

Mr Kallassy explained: "We've spent much of the past 18 months focused on fermentation and formulation cost reduction to comply with the highly cost-sensitive animal health industry. More recently, we've had our heads down in the lab researching and isolating metabolites, testing FPS's performance and preparing for commercial manufacturing.

"This recent research has led to new provisional patent applications that focus on newly identified opportunities that use our existing portfolio of bacterial metabolites."

Among these avenues of interest are new target species, such as swine and poultry – where Bactana has recently shown "promising" early-stage trial data. In addition, in vitro testing has identified antimicrobial properties from the company's proprietary metabolites, which the company intends to use for both animal health and food safety applications.

"Our focus now is primarily on isolating new bacterial strains and the peptides, fatty acids and other small molecules that they produce," Mr Kallassy said. "We've carried out extensive trials looking at what these postbiotics can do, particularly relating to metabolism, the microbiome, and food safety related benefits."

Bactana is currently seeking global partners in the poultry and swine health markets. The firm has yet to carry out any trials in swine but Mr Kallassy believes that the likely mechanisms of action of FPS will be preserved in all mammals and the company is confident these markets will benefit from the company's new technology.

Bactana's chief executive said the firm is riding a wave of momentum in the animal nutrition space, which is being fueled by increasing interest from the top players in veterinary medicine.

"I believe many large animal health companies are increasingly looking toward the supplement and nutritional market for growth," he stated.

"I have noticed a trend within the past two years with an increased focus on products that have demonstrated safety, but do not require full registration. Although these product labels are not able to make specific treatment or benefit claims, potential buyers can still assess their value through published research and field trials. There is currently a general lack of supporting data for many nutritional products on the market but we're trying to change that, and we've seen interest growing, especially in the last 12 months."

To date, Bactana has conducted multiple trials using FPS that have demonstrated improved metabolism, reduction of pathogens, feed efficiency improvements, and enhanced immune response, as well as promotion of gut health. With safety having been demonstrated in both companion animals and livestock, the firm has positioned itself to launch products through forthcoming commercial partnerships regardless of the regulatory pathway chosen.