

## Bioactive Compositions that Boost Probiotic Establishment

The invention: A range of bioactive compositions from bovine colostrum and milk that increase the attachment of probiotic bacteria (*Bifidobacterium*, *Lactobacillus*) to intestinal cells by over 40-fold compared to untreated cells. As attachment is the first step in their mechanism of action, the present invention has the potential to act as a booster to the probiotic bacteria's beneficial effect. This invention would complement and add value to a company's probiotic range/bio-bank and be applicable to a wide range of markets.

**probiotic establishment; bio-bank; gut microflora; Bifidobacterium; Lactobacillus; infant formula; infant supplements; toddler supplements; inflammatory bowel diseases**

### Problem Addressed

Species such as bifidobacteria and lactobacilli are important for inhibiting the growth of pathogenic organisms, improving the barrier function in the gut, and promoting proper immunological and inflammatory responses.

In order to exert a beneficial effect, these bacteria must colonize the gut in sufficient numbers. The first step in colonization is attachment to the intestinal surface.

There are currently no available products that aid or increase the attachment/colonization of probiotic strains to intestinal cells. This crucial step in the probiotic's mechanism of action has been largely overlooked.

### The Solution

Researchers at the Food Research Centre have developed a series of compositions (fractions and purified components from bovine whey and colostrum whey) that increase the attachment of health-promoting bacteria to intestinal cells. From years of research, they have discovered that these compositions alter the gut cell surface and increase the number of attachment sites for these bacteria, leading to increased colonisation.

As such, the present invention does not alter the effects of the probiotic strain, it simply boosts its attachment to the gut, potentially allowing it to function more efficiently by being present in higher numbers.

### Advantages of Technology

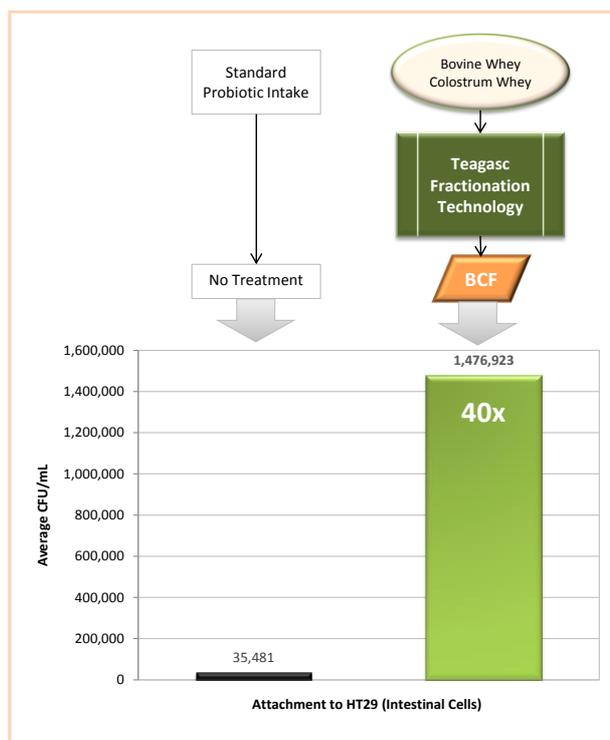
1. Adds value to any current probiotic bio-banks.
2. First Mover Advantage on a potential booster for probiotic efficacy and establishment.
3. Demonstrated effect on the most common probiotic species, and potentially a much wider range.
4. Demonstrated for strains in the lucrative infant formula and supplements markets.

### Intellectual Property Status

Patent application filed by Teagasc in 2017. Currently, PCT stage. Nationalisation Q1 2020.

### Opportunity

Teagasc are interested in partnering with a company to commercialise this technology. Exclusive access will be considered.



### Funding

Internal Teagasc funding, (Walsh Fellowship Scheme).



### How to Proceed:

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