

Whey colostrum based composition to improve gut health

Teagasc is seeking partners within the colostrum, dairy and bioactive ingredients industry to further develop and commercialise novel whey colostrum compositions developed by its researchers at Teagasc Food Research Centre, Moorepark. Such compositions were shown to increase the colonisation of health promoting bacteria in the gut, hence with potential for improving gut health, for applications in infant formula and other foods.

Problem Addressed

Species such as bifidobacteria are abundant in breast fed infant gut and are important for inhibiting the growth of pathogenic organisms, improving barrier function in the gut and promoting immunological and inflammatory responses. In order to exert a beneficial effect, these bacteria must colonize the gut in a sufficient population size. While breast milk allows the expansion of a beneficial gut microbiota, for individuals with lower counts of such health promoting bacteria such as formula fed infants, the elderly and those on antibiotic treatment, there are products available that claim to increase the growth of these beneficial bacteria. However, these compositions increase the colonisation of these bacteria in the gut, which is the most important factor when considering survival in the gut.

Value Proposition

Bovine colostrum and its derived component, IgG have been shown to alter the gut cell surface by increasing the number of attachment sites for health promoting bacteria, leading to increased colonisation *in vitro*, hence identifying a new application for whey colostrum, and its components. This composition is obtained by removal of fat and caseins and can be further enriched in Immunoglobulin G, the active component.

Competitive Advantage of Technology

1. This composition may improve the discrepancy of *Bifidobacterium* counts found between breast-fed and formula-fed infants through supplementation in infant formula and/or toddler supplements.
2. It may also have potential in treating/ preventing diseases associated with lower counts of commensal bacteria eg inflammatory bowel diseases (Crohn's disease, IBS, periodontal disease, rheumatoid arthritis, atherosclerosis, allergy, multi-organ failure, asthma, and allergic diseases.

Opportunity

There is an opportunity for producers of dairy and bioactive ingredients, for the infant formula industry primarily but also ingredients for disease treatment/prevention, to partner with Teagasc to commercialise this IP.



Intellectual Property Status

A patent application was filed by Teagasc in 2017 which claims novel enriched compositions, based on whey colostrum

Funding

Internal Teagasc funding, (Walsh Fellowship Scheme).



How to Proceed:

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