

## Commercialisation opportunity



### Whey colostrum based composition to improve gut health

**Teagasc is seeking partners within the dairy and bioactive ingredients industry to further develop and commercialise novel whey colostrum compositions with potential for improving gut health, for applications in infant formula and other foods.**

#### SUMMARY

Teagasc researchers, through Teagasc funding, have led the development of novel whey colostrum based compositions that increase the colonisation of health-promoting bacteria in the gut. This offers potential for development of novel ingredients, for use within a range of food products particularly infant formula.

#### VALUE PROPOSITION

Species such as bifidobacteria are abundant in the breast fed infant gut and are particularly 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 novel compositions increase the colonisation of these bacteria in the gut, which is the most important factor when considering their survival in the gut.

#### TECHNOLOGY

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 their 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

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. 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.

Producers of dairy and bioactive ingredients for the infant formula industry primarily but also ingredients used in disease treatment/prevention may be in a position to further develop and commercialise this IP, by partnering with Teagasc.



#### INTELLECTUAL PROPERTY STATUS

A filed patent application, claims novel enriched compositions, based on whey colostrum, primarily for supplementation in infant formula, but with other potential applications.

**HOW TO PROCEED** For further information, contact Dr. Miriam Walsh, Teagasc. TTO: [miriam.walsh@teagasc.ie](mailto:miriam.walsh@teagasc.ie)

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