# BioCompCAPS

## Evaluation of food structure, functionality and digestibility: protein/polysaccharide mixtures for encapsulation

This project aims to stabilise essential micronutrients using a technology called encapsulation to ensure their intact delivery to the target sites in gastro-intestinal tract. Bioactive compounds such as vitamins, fatty acids and plant polyphenols have known beneficial effect on human health. Folic acid (vitamin B9) is a hydrophilic vitamin, which plays an important role in cardiovascular health, the nervous system and fetal development. Vitamin E (alpha tocopherol) is lipophilic i.e. insoluble in water, and has antioxidant and anti-inflammatory properties. Omega-3 unsaturated fatty acids (ω-3) are important for the maintenance of health due to their beneficial effects. Plant-based polyphenol such as quercetin also have several health benefits such as antioxidant, anti-inflammatory and anti-obesity properties. However, all these compounds are highly unstable when in the presence of light, oxygen and heat, which can prevent their application in food. One method to overcome these hurdles is to apply a technique called encapsulation, which protects them against these factors. In this project we will develop innovative methods of the encapsulation suitable for application in nutritional products for different population groups' namely infants (infant formula), athletes (sports nutrition) and elderly (nutritional supplements).

**Project Duration:** 36 months (18M TU-Berlin + 18M Teagasc)

**Collaborating Institutions:** Teagasc Food Research Centre Moorepark, Ireland
The Technical University of Berlin, Germany
EncapProcess, France

**Project Team:**

| RL2025 Fellow | Teagasc Supervisor | Outgoing Phase Supervisor | Third Supervisor |
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