



Haleon

Improving delivery and bioavailability of micronutrients in supplements

Background

Vitamins, minerals, and supplements (VMS) play a critical role in supporting overall health, bridging nutritional gaps, and helping individuals meet their unique wellness goals. As demand for personalized and effective health solutions continues to grow, so does the need to ensure that these nutrients are not only present in a product, but also successfully absorbed and utilized by the body. Many micronutrients present challenges in absorption and bioavailability. Factors such as poor solubility, degradation in the digestive tract, or inefficient transport across intestinal barriers can significantly reduce the actual amount of nutrient that reaches systemic circulation. This means that even high-quality formulations may fall short of delivering their intended benefits, especially for nutrients like iron, zinc, magnesium, or fat-soluble vitamins. Superior delivery systems — including nanocarriers, microencapsulation, microemulsions, and bioengineered transport mechanisms — offer promising ways to protect sensitive compounds, modulate their release, and boost uptake. These innovations can also enable lower dosages and fewer side effects, paving the way for smarter, more targeted supplementation. Advanced technologies for the superior delivery of micronutrients and minerals could enable us to enhance the efficacy of our VMS products, ensuring that customers receive the maximum benefits from their supplements.

What we're looking for

We are looking for novel delivery technologies that improve the absorption, stability, release, and/or bioavailability of key micronutrients in orally delivered vitamins, minerals, and supplements (VMS), enabling more effective and personalized nutritional support. We are also open to exploring technologies originally developed for pharmaceutical applications, particularly those utilizing Generally Recognized As Safe (GRAS) components, provided they can be adapted for over-the-counter supplement use.

Solutions of interest include:

- Bioengineered delivery systems
- Buccal and sublingual formats to bypass gut degradation
- Consumer-friendly delivery formats (e.g., gummies, chews)
- Functional proteins or peptides as nutrient carriers
- Hydrogels and microgels
- Liposomes

- Microencapsulation and coatings
- Multilayer coatings for targeted or delayed release
- Nanoemulsions and micellar systems
- Oral thin films and dissolvables for rapid absorption
- Solid lipid nanoparticles
- pH-triggered release systems

Our must-have requirements are:

- Clear rationale for how the approach could improve absorption, bioavailability, stability, or targeted release of nutrients
- Compatible with commonly used VMS ingredients and formats, or a clear path toward such compatibility
- Reasonable basis to consider the approach safe for ingestion

Our nice-to-have's are:

- Controlled or sustained release functionality demonstrated in vitro or in vivo
- Preliminary data demonstrating improved nutrient absorption or bioavailability
- Uses GRAS-listed, food-grade, or supplement-approved materials

Acceptable technology readiness levels (TRL): Levels 3-9

1. Basic principles observed
2. Concept development
3. Experimental proof of concept
4. Validated in lab conditions
5. Validated in relevant environment
6. Demonstrated in relevant environment
7. Regulatory approval
8. Product in production
9. Product in market

What we can offer you

Eligible partnership models:

- Co-development
- Licensing
- Sponsored research
- Supply/purchase

Benefits:

Sponsored Research

Funding is proposal-dependent, starting with a proof-of-concept project that has the potential for expansion based on results and opportunities. The funding range is typically from \$25,000 to \$100,000 for a six-month project.

Expertise

We also offer the expertise of our team of scientists for collaboration and guidance during the project's development. Possible partnerships with us include, but are not limited to, sponsored research, joint development, supply, consulting, and licensing.

Who we are

Our global team is dedicated to developing and collaborating on future-facing, scientifically proven, consumer-focused innovations and technologies. We believe that true innovation comes from collaboration and partnerships with start-ups, academia, health tech pioneers, and innovators. Haleon has a strong portfolio of consumer health brands and plays a vital role for people all around the world, in a sector that is growing and more relevant than ever. We have five brand categories: Oral Health, Vitamins, Minerals and Supplements(VMS), Pain, Respiratory & Digestive. Our trusted brands like Sensodyne, Advil, Centrum & Voltaren improve the lives of millions globally.

Reviewers

Bikash Rajkarnikar

Innovation Ecosystem Lead

Leela Ganesh

Innovation Ecosystem Lead

Please contact the University of South Florida Technology Transfer office representative for submission – Karla Schramm at kschramm@usf.edu