



Tannins encapsulation for personalised products application

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Key figures

Stance4Health EU Project addresses topic DT-SFS-14-2018: Personalised Nutrition, belonging to the Work Programme 2018-2020 of “Food security, sustainable agriculture and forestry, marine, maritime and inland water research and the bioeconomy”.

The specific challenge of this topic is to tackle some of society’s grand challenges like the development of new, secure and healthier foods while fighting against 21st century NCDs.

The Commission Recommendation “A healthy diet for a healthy life” (2010/250/EU) states that if common lifestyle risk factors, including diet-related ones, were eliminated, around 80% of cases of heart disease, strokes and type 2 diabetes, and 40% of cancers, could be avoided. Personalised nutrition for the European population is seen as the way forward to tackle this challenge.

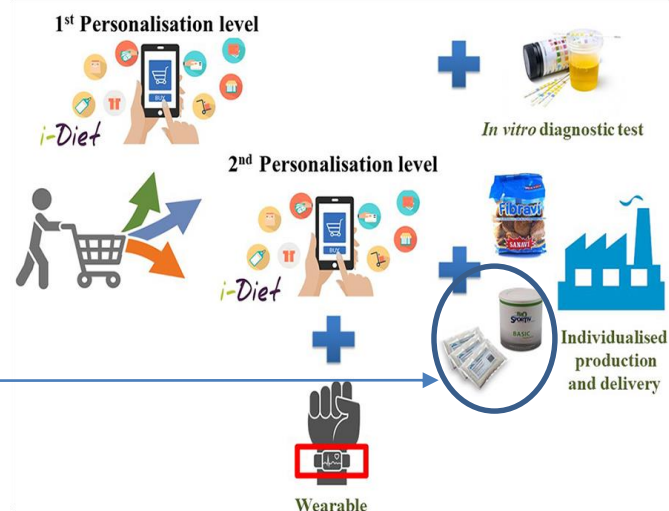
Expected results

In the European H2020 funded Stance4Health project, one of the objective is to develop special tannin extracts (from chestnut wood, quebracho wood, oak wood, tara pods, chinese gallnuts) with differential effects on the gut microbiota and human health, aiming for a personalised modulation of gut microbiota activity at the individual level.

The personalised dietary supplements enriched with special tannins extracted from different sources will be produced in form of a powder, ready to be mixed in drinks in an individualised manner for elderly and athletes, two specific targeted population groups.

Powder formulations comprising different nutrients and extracted tannins in different combinations will be implemented and will be exactly adapted to the individual needs .

Due to their astringency and bitter flavor, will be define how the bitterness can be modify by coating the bitter-tasting tannins extracted using alginate or gum-like or combination of maltodextrin-gum Arabic (ratio of 40:60 (w/w)) formulas to form double-phase emulsion micro-encapsulation or using the spray-dry method to obtain HPMC particles with tannins.



Conclusion

The **Smart Personalised Nutrition** approach proposed will be tailored to different target groups, from healthy children and adults to children with coeliac disease or food allergy, as well as overweight children and adults.

The specific personalised nutrition tools developed along **Stance4Health** will be based on robust scientific evidence and knowledge from different fields like nutrition, medicine, food sciences, microbiology, computer sciences, and social sciences and humanities like economics, marketing, psychology and social anthropology.

