‘Optimization of low glycemic index rice-based biscuits with potential benefits in diabetes controlling’

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INTRODUCTION

- The high incidence of diabetes and the dietary limitations it entails urges the mobilization of R&D for development of target food products.
- Rice is a stable food, one of the mostly consumed in the world. The rice industry generates large quantities of by-products, without great valorisation.

OBJECTIVE

Valorisation of rice and its by-products through the identification of functional natural bioactive compounds and their incorporation in Rice-based biscuits

METHODOLOGY:

1. Characterization of different varieties and fractions of rice, at chemical and biochemical level
2. Biscuit trials: development of experimental design for processing the biscuits and Evaluation glycemic index of biscuits
3. Evaluation of bioactivity digestibility of ingredients and
4. Testing anti-diabetic potential of ingredients
5. Characterization of rice varieties with different genetic background, that can be incorporated in a future low glycemic index product

REFERENCES

Do the different nutritional and bioactive rice compounds and its by-products influence the lower glycemic index of a product, thus adding value to the use of these by-products as ingredients in functional foods?

Do the bioactive compounds present in the rice and its by-products, which are incorporated in the biscuits, have inhibitory effects on the digestion and absorption of carbohydrates, and if so, what is the real bio-accessibility and bioactivity of these compounds in human digestion?

Do the bioactive compounds from the rice and bran have anti-diabetic effect? What is their relationship with starch enzymes and glucose transporters and their effect in the reduction of IAPP aggregation, which leads to the improvement of the cellular viability in eukaryotic cell models?

ACKNOWLEDGEMENTS

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FINALLY, IT WILL BE POSSIBLE TO ANSWER THE FOLLOWING QUESTIONS:

1. Can different commercial rice varieties have specific bioactive composition, glycemic index and impact in diabetic mitigation?

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