



## TITLE

ACTIPEP - PRODUCTION OF NEW PEPTIDIC EXTRACTS WITH BIOLOGICAL ACTIVITY FROM THE SUB-PRODUCTS HYDROLYSIS

## HIGHLIGHTS

Production of new peptide extracts with nutritional properties, such as antihypertensive, antimicrobial, prebiotic and body weight control. These extracts were incorporated into the production of prototypes of smoothies, energetic cereal bars, curd cheese, coated nuts.

## ABSTRACT

One of the major problems of the food industry is the disposal of waste generated in their production processes. In the brewing industry, surplus yeast - *Saccharomyces cerevisiae* - corresponds to a natural byproduct from the fermentation process of the beverage. Therefore, most of these yeasts are sold for incorporation into animal feed or in rare cases are eliminated as production residue, representing a serious environmental problem. On the other hand, whey resulting from cheese production is also a byproduct of dairy industry with high-protein content, where most are sold as dry whey or in the form of protein concentrates.. Both byproducts have high protein value, so the extraction of extracts rich in biopeptides, through the hydrolysis using new enzymes, is an interesting target of study, because they present several biological activities, namely immunomodulatory, antihypertensive, antioxidant, antimicrobial, prebiotic, among others. Peptidic extracts from both by-products can be incorporated into functional foods in order to satisfy the growing consumer interest in the beneficial effect of certain health foods.

In summary, the main objective of this project was to evaluate whey protein and yeast remaining in the production of cheese and beer, respectively, through the development, characterization and validation of these fractions, in particular in the production of peptide concentrates and obtaining  $\beta$ -glucans with biological activities recognized for incorporation into functional foods.

## KEYWORDS

By-Products, Beer Yeast, Peptides, Nutraceutical Extracts

## PROMOTERS / PARTNERS

Escola Superior de Biotecnologia – Universidade Católica Portuguesa (coordinator); Cheese Saloio - Dairy Industry S.A; Unicer; Biostrument; Frulact; Faculty of Medicine of the University of Porto.

FINANCING PROGRAM	EXECUTION DATE	GLOBAL BUDGET
Innovation agency (ADI)	2010-2013	€ 126.351,35

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