

Extended Abstract

Nutraceutical and Cosmeceutical Products Containing Low Molecular Weight Peptides from Fermented Colostrum †

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Introduction: Nutraceuticals are food or parts of a food that provide medicinal or health benefits, including the prevention and treatment of disease. Cosmeceuticals are the cosmetic products that incorporate biologically active ingredients having therapeutic benefits on the surface applied. Within SC LABORATOARELE MEDICA, fermented colostrum is obtained with enhanced kefir grains using an original method [1]. The fermented product contains low molecular weight (LMW) peptides that have been isolated and characterized [2,3]. The aim of this paper was to evaluate the potential of these peptides in the prevention of certain diseases so as to apply the active principles in the formulas of some nutraceuticals and cosmeceuticals obtained by this company.

Materials and methods:

- Bovine colostrum was fermented with enhanced kefir grains;
- Quantitative determination of LMW peptides from fermented colostrum was performed using o-phthaldialdehyde (OPA) reagent;
- The qualitative determination of the peptides was performed with Tricine-SDS-PAGE;
- Antioxidant activity of peptides was determined using the ABTS method;
- Angiotensin converting enzyme (ACE) inhibitory potential was evaluated by the method described by Papadimitriou et al. [4];
- The recovery effect was evaluated in vitro through a scratch assay experiment;
- The evaluation of the anti-inflammatory effect was performed using a specific ELISA kit for cytokines TNF- α , IL-6 and IL- β .

Results: Bovine colostrum fermented with a consortium of improved kefir, conditioned in powder form by atomization, by its content of bioactive peptides showed the following characteristics: antioxidant effect, ACE inhibitory activity (so blood pressure regulation),

biocompatibility, healing and anti-inflammatory effect. Due to these characteristics, it is included in the following nutraceutical formulas: Col-Kefir, Super-Nutrient, Focus 3xiotics, Pan Verucidin. These nutraceuticals are considered tri-biotic products because their pre-, pro- and post-biotic effects have been determined. The COL-KEFIR MILK THERAPY product line, which is part of the cosmeceuticals category, consists of biocompatible products, with healing, anti-inflammatory and antibacterial effects.

Conclusions: Fermented bovine colostrum, by its content of bioactive peptides, is a safe and useful nutraceutical product for use in a wide range of applications. In addition, peptides from this source are useful for the development of cosmetic formulations aimed at treating damaged and dysfunctional skin.

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