TECH OFFER

Peptide Enriched Rejuvenating Serum and Radiance Booster

KEY INFORMATION

TECHNOLOGY CATEGORY:
Sustainability - Sustainable Living
Personal Care - Cosmetics & Hair
Personal Care - Nutrition & Health Supplements
Waste Management & Recycling - Food & Agriculture Waste Management

TECHNOLOGY READINESS LEVEL (TRL): TRL8
COUNTRY: THAILAND
ID NUMBER: TO175243

OVERVIEW

The increase in porcine production in Thailand has led to a rise in the volume of waste and by-products from farrow-to-finish farms. Among these by-products, the porcine placenta is of particular interest due to its rich composition of bioactive components such as cytokines, enzymes, growth factors, collagen, bioactive peptides, vitamins and nucleic acids. Hence, there is growing interest in developing appropriate technologies to derive value from this resource, transforming it into high-value products.

This technology presents an innovative serum with the primary ingredient being peptides derived from hydrolysed porcine placenta. The peptides were selected based on specific molecular weight sizes which influence bioactivities. The porcine placenta hydrolysate facial serum was found to reduce melanin production, diminish facial skin dullness, decrease water loss from the skin

surface, maintain skin moisture, and enhance facial skin elasticity.

TECHNOLOGY FEATURES & SPECIFICATIONS

The peptides are derived from hydrolysed porcine placenta using enzymatic methods and ultrafiltration membrane separation, which ensures high biological activity. Advanced techniques were used to analyse peptide structures, determining the amino acid sequences that exhibit significant biological activity. Various biological activities were tested both in vitro and in vivo cells, allowing the identification of effective doses.

Rich in epidermal growth factor, antioxidants, anti-tyrosinase, anti-elastase and anti-bacterial peptides, the serum's efficiency was evaluated on 30 volunteers over one month, adhering to pharmaceutical principles and with proper human research ethics approval. The porcine placenta hydrolysate facial serum was found to reduce melanin production in a month, increase skin firmness and elasticity by 60% in 2 weeks and hydrates the skin after use.

POTENTIAL APPLICATIONS

The peptides produced from hydrolysed porcine placenta developed for use in various types of skincare and cosmetics. The process can be extended to develop applications as alternate functional food ingredient and dietary supplements.

UNIQUE VALUE PROPOSITION

This proprietary technology enables the production of peptides with small particle size that can be absorbed more easily into human skin. Moreover, this product does not need to be further converted to an active form such as in the case of retinol, leading to faster improving skin.