

## Cosmetic Cream Based on the Horse-Placenta

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Modern cosmetology possesses a huge arsenal of tools and methods for the prevention and treatment of various aesthetic problems. There is a range of medical and cosmetic products consisting of biologically active agents and additives. A number of studies have been devoted to the research on the possibilities of using placenta extracts obtained by lysis of human placental tissues, sheep, goats and horses for the treatment of different pathologies [1-5].

Taking into account the therapeutic potential of placental extracts, we developed the composition and technology of fabrication of a cosmetic cream based on the horse placenta extract.

The extract was obtained by taking the placenta immediately after vaginal delivery from mares (horse farms of the Akmola and Karaganda regions, Republic of Kazakhstan). The horse placenta was thoroughly washed and separated with ice-cold phosphate-saline buffer by using tissue homogenizer, centrifugation and lyophilization. Sterilization was performed using  $\gamma$ -radiation employing a source of cobalt-60 isotopes (ILU-10 accelerators, Russia) at the Institute of Nuclear Physics in Almaty, Kazakhstan. An emulsion was used as the base of the composition, taking into account its incorporating ability and effect on the human skin. To obtain an emulsion cream (based on horse placenta), we selected lipophilic components as structure-forming substances, including cocoa butter, petroleum jelly, fats, tween-80, distilled monoglycerides, T-2 emulsifier, lecithin, anhydrous lanolin as emulsifiers. The cream was prepared by mixing the placental extract with lipophilic components of the base and emulsifiers, followed by the addition of an aqueous phase.

The developed cream was tested for organoleptic and physical-chemical properties: colloidal stability during centrifugation, and thermal stability.

Organoleptic indicators were evaluated for appearance, colour and smell. The determination of colloidal and thermal stability was carried out by methods based on the separation of the system into fat and water phases during centrifugation and incubation. The determination of the hydrogen index was carried out in a water extract. The study of rheological properties showed a consistency of the solution that was optimal from a practical and clinical point of view.

The study demonstrated the feasibility of fabrication of the cream based on the horse placenta, and its excellent physical and chemical properties. Further research is needed to validate the therapeutic activity and safety of the proposed product.

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