

increased WJ-MSC yield by up to tenfold compared to standard methods. Cryopreservation of WJ tissue resulted in a twofold reduction in cell yield compared to fresh tissue, but cells from both sources maintained viability, CFU capacity, and multilineage differentiation potential. This demonstrates the feasibility of cryopreserved WJ tissue as a robust source of MSCs.

This study presents a biotechnologically enhanced approach to WJ-MSC isolation, demonstrating a significant improvement in cell yield. Furthermore, the successful cryopreservation of WJ tissue provides a reliable source of high-quality MSCs, minimizing in vitro passage-related alterations. These findings highlight the potential of these optimized biotechnological strategies for advancing regenerative medicine applications.

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**The relevance of creating a gel for the treatment of
such a dermatological disease as couperose**

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Couperose is a disease in dermatology that occurs due to a decrease in the elasticity and fragility of the capillaries of sensitive skin, which leads to impaired blood microcirculation. According to statistics, couperose occurs in almost every 3rd woman and every 5th man.

This disease does not pose a threat to the patient's life, but, occurring mainly on the face, it affects the psycho-emotional state, causing dissatisfaction with one's appearance.

Treatment of couperose on the face should be comprehensive. In the early stages of the development of pathology, the patient is prescribed local therapy, which

includes the use of semi-solid dosage forms (SDF), namely gels that are able to closely contact the skin and quickly release active pharmaceutical ingredients at the site of application. Hydrophilic and lipophilic medicinal substances can be introduced into the composition of gels, and thanks to the gel base, their release and bioavailability can be influenced, increasing the effectiveness and safety of drugs, which is an important aspect for SDF applied to the skin.

As an active pharmaceutical ingredient (API), we chose the extract of the root of the Ruscuse. The extract contains saponins such as ruscogenin, neoruscogenin, which are able to affect microcirculation. However, to date, only the effectiveness of the Ruscuse has been proven in regulating venous outflow, generally improving blood circulation and lymph flow. Due to these properties, the extract of the root of the Ruscuse is used to the solution of various problems: it removes redness of the facial skin, reduces swelling and fights bags and circles under the eyes.

Method for preparing a disinfectant

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The efficiency of the livestock industry depends directly on the well-being of the productive animals. Veterinary and sanitary measures in any livestock farm are a leading position in the technological chain. They are planned considering the existing epizootic situation and the specifics of production. To this end, a variety of antimicrobial agents are used to prevent or eliminate infectious diseases. A promising area for the creation of modern disinfectants is the use of the achievements of nanotechnology, particularly the development of new materials (metals), which will be used as an alternative to chemical disinfectants, which have many negative properties. The development of nanotechnology-based disinfectants, in which metal