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AUTOPHAGY ROLE IN MODULATING INFLAMMATORY MARKERS RESPONSE IN KERATINOCYTES

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Autophagy is involved in a wide range of cellular physiological processes, including the response immune, tumorigenesis, differentiation, apoptosis, antimicrobial defense, etc. Impaired autophagy is associated with a wide range of human diseases, such as diseases neurodegenerative, cardiomyopathies, infectious diseases and cancers, and autophagy modulation was already considered a potential target for the therapy of these diseases.

Modulation of the autophagy mechanism could be a better strategy than inhibition of melanin synthesis or transfer for treating disorders of skin pigmentation. Moreover, inhibition of autophagy increased significantly accumulation of p62, expression cathelicidin/LL-37 and inflammatory cytokine production. The effects of autophagy on chronic skin disorders will be studied, the everyday factors that modulates the immune response in epithelial cells and possible therapeutic alternatives in expression of inflammatory markers in keratinocytes under the action of autophagy mechanisms, induced by fasting and pharmacological simulation.

Considering literature data indicating the anti-inflammatory action of some medicinal plants, the studying methods for this experimental study are:

1. Obtaining aqueous and hydroalcoholic plant extracts.
2. UV-Vis spectrophotometric analysis of the extracts and determination of the content in phenolic compounds.

Studying the role of autophagy in the human body and the mechanisms which it participates in, such as the evolution of tumors. The obtained results demonstrate that in the initial stage in the process of oncogenesis, autophagy has the role of tumor growth suppressor, however, in the late stage a oncogenesis, contributes to the development of the tumor process by providing the cells with a substrate for synthesis of ATP and macromolecules, inhibiting anoikis. Respectively, mutations in a number of genes from the reaction cascade of the autophagy involve expression products that are indispensable. Currently, have been discovered chemicals capable of activating/inhibiting autophagy activity.

Developing new positive modulators of autophagy opens a new perspective in making more effective remedies for fighting chronic skin diseases.

Keywords: autophagy, mechanism, modulators of autophagy, tumor growth suppressor.