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Effect of Solanum tuberosum extract on human keratinocyte proliferation in vitro

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Lectins are a group of glycoprotein substances which have the role of stimulating growth similar to growth factors. Sarcolectin is an endogenous lectin that plays an essential role in regulating cell proliferation in most tissues. In skin tissue, 95% of epidermal consists of keratinocytes, which their most important task is creating a protective layer against external factors. These cells are continuously replicating to renew generation the skin's formation or wound healing, thereby stimulating the proliferation of these cells is important. the effects of Solanum tuberosum extract on the proliferation of cultured human keratinocyte cells were investigated. Cells of the 4th passage keratinocytes were cultured in 6 well plates and in HAMF 12 medium plus 10% FBS and streptomycin and penicillin antibiotics with the density of 100,000 cells per house. In this study, the two groups were investigated which first group was treated with plant extract and the second group was untreated

and considered as the control group. After 72 hours, the cells were trypsinised and counted in Malassez cells under inverse microscope. The results show that the number of cells in the first group was 2.7 times higher than the day zero and 1.17 times more than in the control group. Sarcolectin awaken the cells in order to make them ready to respond to growth factor signals and that increase growth factors indirectly by inhibiting Interferons. Ultimately that stimulate proliferation of cells. The glycoprotein of this extract had stimulation effect on keratinocyte's proliferation too. Therefore, these process of stimulation look approximately similar. In other hand availability of the plants, absence (lack) of toxicity and stability of the extracts produced by this plant is characteristic for this plant to have a good potential to applicate in growth-promoting products.

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