

INFLUENCE OF VITAMIN C AND RIBWORT PLANTAIN EXTRACT ADDITION TO THE PROPOLIS EXTRACT ON THE VIABILITY OF FIBROBLASTS IN CELL CULTURE *IN VITRO*

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Propolis is a honey bee product rich in biologically active substances that have been proved to have beneficial effects on human health. It is widely used in traditional medicine for the treatment of various not only respiratory but also skin disorders. Propolis can be used alone as a pure extract or with the addition of multiple plant extracts and antioxidants to achieve synergistic effects. The aim of this study was to examine the effects of different propolis extracts, commercially available on the market, on the viability of fibroblasts in cell culture *in vitro*. We examined the effect of three different propolis extracts: pure propolis extract (25%), propolis extract (10%) with added vitamin C and propolis extract (10%) with Ribwort Plantain extract and added vitamin C, on the viability of L929 fibroblasts, using the MTT test and microscopically. Concentration-dependent effect of all examined propolis extracts on the viability of fibroblasts was observed. Also, differences in the effect of examined extracts on cell viability were noticed related to the additions to the propolis extract, and the pattern was different in lower compared to the higher examined concentrations. The addition of vitamin C and Ribwort Plantain extract influences the effects of pure propolis. Using propolis in combination with plant extracts and bioactive substances may have beneficial effects, but it should be considered based on the indications for which these products are intended and the effects to be achieved.

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