

Effect of aloe vera gel extracts, exudate extracts and lyophilized gel extracts on Primary cultured human periodontal fibroblasts and pulpal fibroblasts

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The propose of this study was to test the effect of aloe vera extracts, including gel, exudate and lyophilized gel, on primary human periodontal fibroblasts and pulpal fibroblasts. Cells were treated with different concentrations of aloe vera extracts in serum-free cultured medium for 24 hour. The cells number was counted via the MTT assay and then analyzed via One-way ANOVA, $p < 0.05$. Aloe vera gel extracts, at protein concentration of 5-50 $\mu\text{g/ml}$, statistically increased the cell number of periodontal and pulpal fibroblasts. The exudate extract, at 400 and 600 $\mu\text{g/ml}$, statistically decreased the cell number of periodontal and pulpal fibroblasts, respectively. The lyophilized aloe vera gel extracts, at 50-200 $\mu\text{g/ml}$, statistically increased the cell number of periodontal and pulpal fibroblasts. The result suggested that aloe vera gel extracts at 5-50 $\mu\text{g/ml}$, and the lyophilized aloe vera gel extracts at 50-200 $\mu\text{g/ml}$, stimulate the proliferation of both periodontal and pulpal fibroblasts. While, the exudate extract, at 400 and 600 $\mu\text{g/ml}$, decreased the cell number of periodontal and pulpal fibroblasts, respectively, Therefore, aloe vera could be further applied for a dental therapy.

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