ABSTRACT

Plantago major is have many more highly effective constituents in this plant including aucubin, polysaccharide, flavonoid, triterpenoid, etc. Extracts of the plant effective treatment for wound healing by increasing cytokines (TNF-α, INF-γ and NO) production, it quickly stops blood flow, encourages the repair of damaged tissue and promote healing without scars.

In the proliferative phase of wound healing fibroblasts and endothelial cells are the primary proliferating cells. Fibroplasia begins as the number of neutrophils decreases and the number of macrophages and fibroblasts in the wound area increases. Fibroblasts replicate in response to cytokines (TNF-α, INF-γ and NO) and growth factors released during the earlier phases of wound healing. The extracts of the Plantaho major can increasing cytokines, it will increase the proliferation of fibroblast, end then accelerate wound healing.

The purpose of this study was to identify the effect of Plantago Major extract to fibroblast proliferation. The sample was fibroblast cells culture BHK-21 (Baby Hamster Kidney-21). The Plantago Major extract divide into 3 concentration, 0,1mg/ml; 0,2 mg/ml; and 0,4 mg/ml. These extract applied into fibroblast cell culture and incubated in 24 hours. After incubated, ELISA reader used to read the result of this experiment. The data were compared and examined with Kruskal-Wallis Test end then Z test. The result was the increasing of fibroblast proliferation happened when Plantago Major extract applied to the cultures. The conlusions shows that Plantago Major extract can increase the fibroblast proliferation and 0,2 mg/ml is the most effective dosage which can accelerate wound.

Keywords : fibroblast, plantago major extract, aucubin, culture cell