DETERMINATION OF *Bacopa procumbens* EFFECT IN 3T3 FIBROBLASTS

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Introduction. Wound healing is a complicated process that is characterized by angiogenesis, granulation tissue formation, collagen deposition, epithelialization and wound contraction(1); all these phases involve complex biomolecular interactions among soluble cytokines, formed blood elements, the extracellular matrix and cells, specially the fibroblasts(2). *B. procumbens* is used for wound healing by some populations in the state of Hidalgo. (3)
Thus the main objective of this work was to determinate the effect of a *B. procumbens* product on the proliferation, differentiation and migration of 3T3 mouse fibroblast.

Methods. The product was evaluated at 1, 10, 50, 100 and 200 μg/ml solved in DMSO 0.2%, at 24, 48 and 72h. Proliferation was evaluated by MTT assays and by the PCNA protein expression analysis. Fibroblast migration by scratch assay. Cellular differentiation was evaluated analyzing the expression of α- SMA and the adhesion binding to fibronectin was evaluated at 30,60,120 and 180 minutes. (4,5)

Results. The analyses of PCNA protein expression demonstrated that product increased cellular proliferation since a 1 μg/ml doses increased cellular proliferation. (Fig. 1)

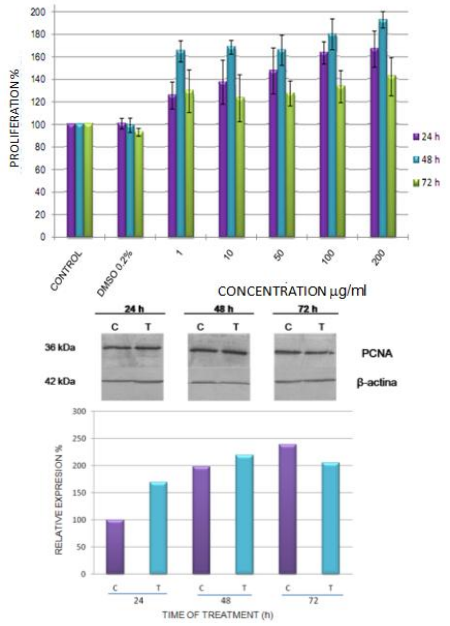

Fig.1 Cellular proliferation effect on mouse fibroblast.

The product also stimulated fibroblast migration at low doses at 48h.(data not show)
The relative expression of α- SMA indicated that the fibroblast treated with the product induced fibroblast differentiation at 24 and 48h. (Fig. 2.)

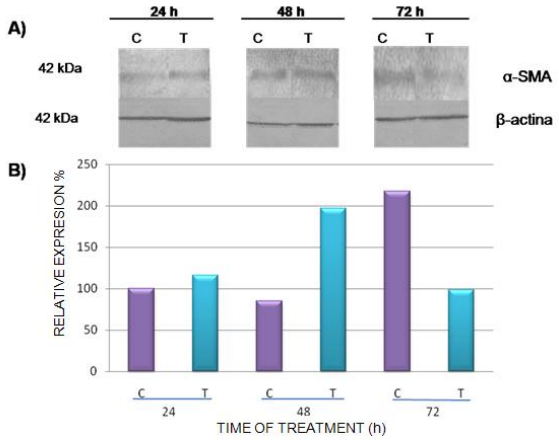

Fig.2 Relative expression of α- SMA that demonstrated the differentiation effect on mouse fibroblast.

The highest adherence effect of the fibroblasts binding to fibronectin was observed with doses of 1 μg/ml at 30 min of treatment.

Conclusions. This study demonstrated that product stimulate 3T3 mouse fibroblasts healing in early stages, inducing mechanisms such as proliferation, migration and adhesion to fibronectin, that are important events in wound repair.
Biochemical and molecular studies currently under development will allow us to determine the healing potential of the product

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