

Investigating Plant-based Medicines for Wound Healing with the Use of Cell Culture Technologies and *In vitro* Models: A Review

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Abstract

Introduction: Cell culture and molecular technologies are basic yet sophisticated research tool used to investigate plant-based medicine for wound healing. **Methods:** Cell viability and proliferation assay is used to determine whether there are any positive effects and to discover what is the limiting cytotoxic concentration *in vitro*. The scratch technique, fibroblast-populated collagen lattices and aortic rings embedded gels are used as the *in-vitro* models of wound re-epithelialization, contraction and angiogenesis. The immunofluorescence, immunoblotting and organotypic culture can be used to detect expression of specific proteins that are modulated by plant extracts during the wound healing process. **Main Findings:** Given the dynamics of the wound healing process, cell culture and molecular technologies are advantageous in providing us with detailed studies and analysis of each intricate process. **Conclusion:** The scientific approaches for the study of traditional plant-based remedies for wound healing will provide us an important platform for rigorous testing and evaluation of their clinical efficacy based on accepted rules of evidence.

Ann Acad Med Singapore 2000; 29:27-36

Key words: Fibroblasts, Keratinocytes, Re-epithelialisation, Traditional medicines, Wound contraction

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