

Comparative analysis of botanical extracts for wound healing

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The use of naturally derived products has become more prominent as evidenced by several new recently FDA approved products including Medihoney® and ingenol mebutate. The use of naturally derived products is also becoming more widely prevalent in over-the-counter products such as sunscreens and moisturizers. However, there is little known as to how these extracts function and how well they compare against each other. More research is needed to better understand the scientific basis for how phytochemicals and botanical extracts can be harnessed for use in skin care products. Here, we use a biological assay whereby cell migration is investigated by comparing exposure to different botanical extracts. Data regarding the modulation of keratinocyte and fibroblast motility and viability will be discussed. Furthermore, the role of the extraction solvent will be discussed in regards to modulation of cell migration, cell viability, and antioxidant status. In particular, extracts from aloe vera, bittermelon, Echinacea, gotu kola, and turmeric will be discussed. We aim to develop a comparative library of botanical extracts in relation to their effects on cell function related to wound healing. By doing so, we hope to create a more scientific rationale and understanding for the inclusion of extracts in skin care products.

Biography

Raja Sivamani completed an undergraduate degree and Master's degree in bioengineering from the University of California, Berkeley and University of California, San Francisco. He completed his medical training at the University of California, Davis. During his medical training he served as a Howard Hughes Medical Institute Research Fellow. Sivamani received training as an Ayurveda Health Educator through the California College of Ayurveda. He is currently a chief resident physician in the Department of Dermatology at the University of California, Davis. He has published over 20 peer-reviewed manuscripts on several topics within dermatology including tribology, microneedles, mesenchymal stem cells, phytochemicals, and wound healing. His unique training in Ayurveda, bioengineering and dermatology allows him to bridge the gap between the disciplines to develop novel therapeutic strategies within dermatology.

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