Novel Treatment to Enhance Healing of Chronic Wounds Utilizing New Compounds Related to Curcumin

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Background:
Curcumin, a constituent of the condiment curry powder, has a long history in the treatment of a wide variety of diseases and ailments ranging from cancer to conditions of the skin. The therapeutic effects are thought to be mediated through the regulation of various transcription factors, matrix metalloproteinases (MMPs), growth factors, pro-inflammatory cytokines (PICs), protein kinases and other mediators. The aberrant production of MMPs and PICs at pathogenic levels, has been implicated in a variety of human skin conditions and appears to play a major role in impeding wound-repair and the improvement of many other dermatological ailments. Never-the-less, Curcumin has never achieved any status as a useful drug substance because of its extreme insolubility and the limited ability to secure intellectual property protection.

Technology Description:
Professors Lorne M. Golub and Francis Johnson in a collaborative program between Stony Brook University and Chem-Master Intl. Inc. have synthesized and screened a novel series of compounds that display biological activities much superior to curcumin. In particular, extensive in vitro and in vivo studies have revealed the ability of these substances to markedly enhance, wound-healing with respect to the reformation of both the epidermal and dermal layers of the skin. These compounds were designed to have enhanced solubility and biological activity (vis-à-vis Curcumin) and when tested in a number of systemic and topical formulations, were found to be highly efficacious.

Patents and Publications:
- Patent pending.

Advantages
- The compounds are a novel class of substance.
- The efficacy and activity in experimental animal models, is excellent.
- The compounds have enhanced solubility and bio-activity.

Applications
- Healing of chronic wounds
- Dermal ulcers
- Atopic dermatitis
- Persistent skin disease
- Topical or systemic delivery

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