

NOVEL COLLAGEN BASED SCAFFOLD TO PROMOTE TISSUE REGENERATION FOR COMMERCIAL APPLICATIONS

Dermelle, LLC is actively pursuing commercialization of a novel collagen matrix having the following bio-histochemical characteristics: reduced native collagen enzymatic degradation, high fibroblast cellular interaction and high tissue in-growth. Their properties are believed to promote tissue regeneration. A limitation of current injectable collagen soft tissue fillers is their short duration time and lack of cellular integration. By exploiting nanomaterial characteristics, Dermelle will improve upon current interventions for tissue reconstruction. A recent study measuring degradation of our novel collagen scaffold in comparison to a pure collagen control sample demonstrated a significant decrease in total collagen degradation of the novel collagen construct. In addition, a 13 day cell culture of the scaffold indicated a significant increase of DNA over the period of time in the novel collagen matrix, whereas the collagen alone demonstrated a decrease in DNA. Therefore, the treatment of the collagen with the nanomaterials may increase cellularity over time, thus initiate tissue regeneration.

This device has the primary application in the cosmetic market as an injectable dermal filler to reduce signs of aging. The base technology is also believed to be applied to urological, wound, orthopedic and cardiovascular applications. The innovation was developed by researchers at the University of Missouri-Columbia. A provisional patent has been filed; and an option has been executed by Dermelle, LLC. The main advantages of this innovation are a longer lasting product with better efficacy by decreasing degradation, promoting cell-collagen matrix adhesion and antioxidant/antimicrobial properties.

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