Docket #: S08-229

Collagen Materials, Films and Methods

Stanford researchers have recently patented methods of making and using collagen materials, compositions and films. This technology produces collagen scaffolds that can accurately replicate those found in human skin, tendons, heart valves and other tissues for application in tissue regeneration, wound care, and other medical needs. The collagen scaffolds are capable of displaying three different tissue patterns: “woven pattern", "basket pattern" or "basket weave". They enable control over parameters such as mechanical strength, structural uniformity, average fibril sizes and optical characteristics, while also demonstrating the flexibility necessary to create three-dimensional nanostructured matrices tailored for specific research and medical applications.

Applications

- **Potential applications in diverse, multi-billion dollar markets:**
  - Aesthetics and cosmetics,
  - Personalized tissue regeneration,
  - Personalized therapeutic screening,
  - Reconstructive surgery,
  - Biosynthetic tendons,
  - Scarless wound healing,
  - Tendon and ligament repair,
  - Diabetic ulcers,
  - Cornea and periodontal tissue related applications,
  - Cell cultures,
  - Research

Advantages

- Scalable
- Flexible
- Controllable parameters
- Several tissue patterns
- Captures advantages of small size and high power
- This new collagen extra-cellular scaffolds (ECSs) can potentially serve as the basis for a new generation of in vivo and in vitro tissue regeneration products

Patents

- Published Application: 20110151563
- Published Application: WO2008070166
- Issued: 8,227,574 (USA)

Innovators

- Gerald Fuller
- John Kirkwood
- Michael Paukshto
- David, McMurtry
- Bo Yu

Licensing Contact

Michael Spaid

Technology Licensing Associate 2

Email