Skysong Innovations
Advancing the Arizona State University Knowledge Enterprise

1475 N. Scottsdale Road, Suite 200
Scottsdale, AZ 85287-3538
Phone: 480 884 1996 Fax: 480 884 1984

Case ID:M22-024L^
Published: 12/22/2022

Inventors

Jordan Yaron

Kaushal Rege

Contact

Jovan Heusser
jovan.heusser@skysonginnovations.com

Wound Healing Compositions

-Dermal wound healing is a complex and dynamic process involving the highly regulated coordination of diverse signaling events. Dysregulation during any of the stages of healing can result in scarring and tissue disruption increasing the risk of morbidity and mortality. It is estimated that chronic wounds affect more than 6 million people in the United States per year with significant associated management costs. Despite advances in understanding the processes involved in wound healing and a renewed focus by the FDA in this area, little progress has been made in the development of new treatments for chronic wounds. Current approaches to address chronic cutaneous wounds include good wound care, in some cases this involves debridement or physical tension offloading, and Regranex.

Researchers at Arizona State University have developed novel wound healing compositions and methods to produce such compositions. Using naturally-derived recombinant therapeutic biologic compositions, a variety of different wound types can be treated including acute, diabetic, infected, aged, burns, ulcers, injuries, surgical incision sites, and more. The active component in these compositions targets a novel aspect of wound healing involving rapid wound closure, a process that is also implicated in poorly healing wounds. When this biologic was recombinantly and delivered like a drug, it accelerated wound closure in both cell cultures and mice.

These compositions work on correcting processes in wound healing that have become dysregulated to promote rapid and organized wound closure.

Potential Applications

- Wound treatment compositions
  - Acute cutaneous wounds
  - Diabetic wounds
  - Infected wounds

- Aged wounds
- Burn wounds
- Venous stasis ulcers
- Cutaneous battlefield injuries
- Surgical incision sites

Benefits and Advantages

- The biologic component is expressed in healthy healing wounds, but is impaired in poorly healing wounds
  - These compositions will act to supplement naturally available quantities of this biologic component, or to replace insufficient quantities
  - Mediates rapid and organized wound closure
- Shows accelerated wound closure in both cell cultures and mice
- Targets earlier stages in wound healing
  - Could be adjunctive to Regranex and similar treatments targeting later stages of healing

For more information about this opportunity, please see

News Article - 2022

For more information about the inventor(s) and their research, please see

Dr. Rege's departmental webpage

Dr. Rege's laboratory webpage