

## Current Work

Poster Number:  
15266

Abstract Title:  
**A MODIFIED COLLAGEN GEL  
DRESSING RESOLVES  
WOUND INFLAMMATION  
THROUGH MICRORNA-21  
DEPENDENT M2  
MACROPHAGE  
POLARIZATION**

Presented at: SAWC/WHS Spring  
2016 Conference in Atlanta, GA

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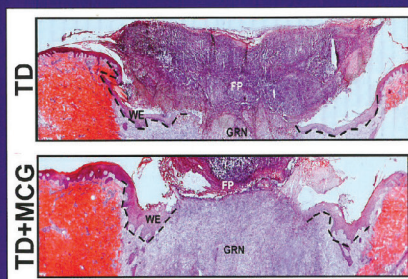
## Featured on the Cover

Wound Repair And Regeneration

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## WOUND REPAIR AND REGENERATION

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WILEY  
Blackwell

The Wound Healing Society  
The Japanese Society for  
Wound Healing

The European Tissue Repair Society  
The Australian Wound  
Management Association

**“A modified collagen gel dressing  
promotes angiogenesis in a  
preclinical swine model of  
chronic ischemic wounds”**



**southwest technologies inc.**

1746 Levee Road, North Kansas City, MO 64116  
phone: (800) 247-9951 phone: (816) 221-2442 fax: (816) 221-3995  
email: [info@elastogel.com](mailto:info@elastogel.com) • website: [www.elastogel.com](http://www.elastogel.com)

**amorphous gel**

**Stimulen**<sup>®</sup>  
enhanced collagen woundcare

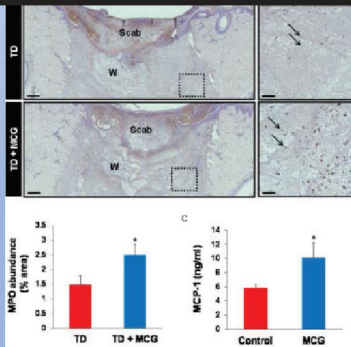


**A Summary of  
Research Findings**

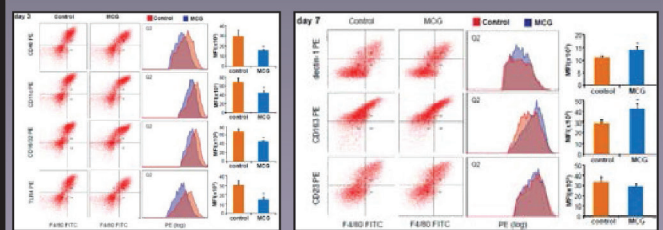
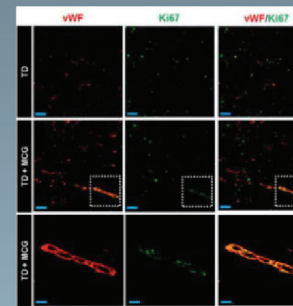


# Findings of the application of Stimulen<sup>®</sup> Gel (Modified Collagen Gel or MCG) on the wound healing process in three different animal wound models.

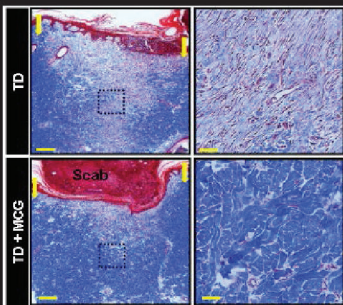
Increased recruitment of inflammatory cells to the wound-site, an important step in preventing infection and promoting healing of the wound.



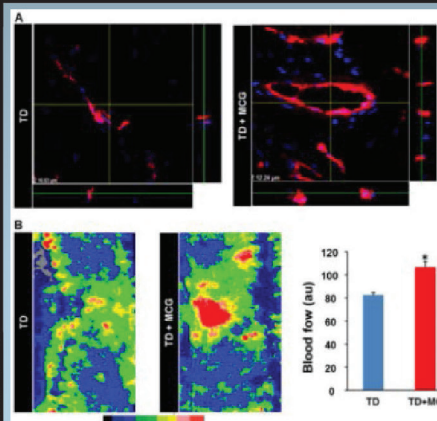
Increased recruitment of endothelial cells that form new blood vessels



Enhanced transition of inflammatory cells from a pro-inflammatory to a reparative state, allowing for a timely healing response.

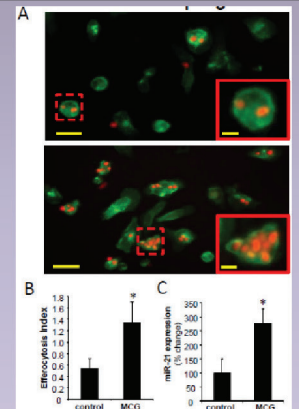


Higher abundance of mature collagen fibers, associated with improved biomechanical properties

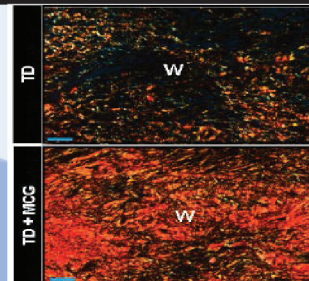


Formation of new blood vessels and increased blood flow to the wound

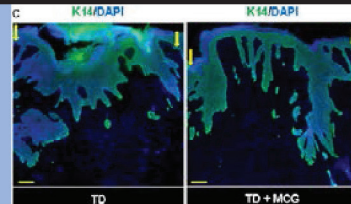
Improved engulfment by inflammatory cells, a process that is essential for the clearing of harmful entities and advancement of the wound healing process.



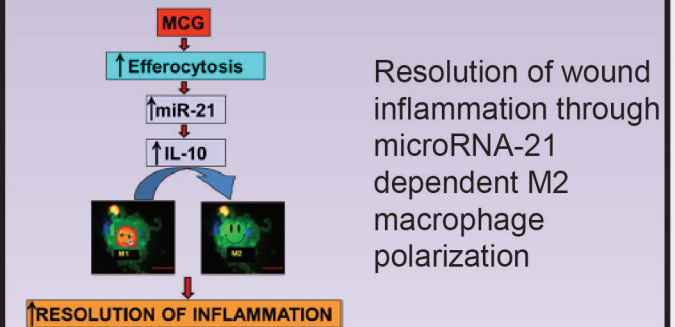
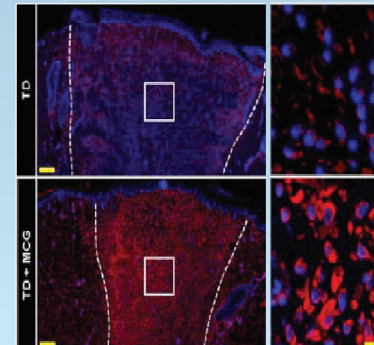
Greater collagen I:III ratio in the wound, indicative of greater tensile strength and resistance to reopening caused by shear stress.



Increase in the length of rete ridges reestablishes more healthy skin that is well nourished and more resistant to reopening



Recruitment of the reparative type of immune cells that are responsible for preventing excessive inflammation and further damage



Resolution of wound inflammation through microRNA-21 dependent M2 macrophage polarization

Elgharably H, Roy S, Khanna S, Abas M, Ghatak PD, Das A, et al. A modified collagen gel enhances healing outcome in a pre-clinical swine model of excisional wounds. Wound Repair Regen 2013; 21: 473–81.

Elgharably, H., Ganesh, K., Dickerson, J., Khanna, S., Abas, M., Ghatak, P. D., Dixit, S., Bergdall, V., Roy, S. and Sen, C. K. A modified collagen gel dressing promotes angiogenesis in a preclinical swine model of chronic ischemic wounds. Wound Repair and Regeneration 2014; 22: 720–729.

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