

Biotechnology and Healthcare

**Title**

Mechanotransduction Inhibitors In Use Of Preparation Hair Follicle

**Abstract**

The ultimate goal of wound healing is to restore tissue structure and function. In the mouse skin regeneration model, by creating and allowing a wound to heal by secondary intention, wound-induced hair neogenesis (WIHN) occurs at the wound center. This implies a spatial regulation of hair regeneration. Measurements of the epidermal elasticity using atomic force microscopy show epidermal stiffness is topologically arranged throughout the wound. Inhibitors of mechanotransduction in the wound significantly increased the area of softness, the number of regenerated hair follicles and the area of regeneration. In contrast, increased wound stiffness significantly reduced the number of regenerated hair follicles and the area of regeneration. The findings suggest that biomechanical forces modulate epithelial competence, tissue patterning, and hair regeneration during WIHN. The wound center maintains a low mechanical force environment that promotes hair follicle and tissue regeneration.

**Benefits**

There is a lack of wound regenerating therapies in the clinic. Our technology can be used to increase the quality of wound healing and restore the tissue to original structure and function.

**Industry Categories**

- Clinical wound therapy
- Cosmetic application
- Medical Industry
- Skin care product development

**Keywords**

Tissue regeneration, wound-induced hair neogenesis (WIHN), mechanotransduction, epithelial cells, skin fibrosis, wound healing, hair follicles

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