



3D multifunctional nanofiber structure

Therapeutic 3D Nanofiber membrane prepared by Forcespinning

This invention is a novel 3D nanofiber based heterogeneous structure that focuses particularly on the use of plant-based/highly-effective active ingredients (organic ingredients) with complementary biological properties.

Problem Most wounds are treated with ointments and gels, and then covered with gauzes. This method is not very efficient, when it comes to skin wounds such as those caused by psoriasis (chronic autoimmune condition appearing on the skin in patches of thick, red, scaly skin with bleeding).

Existing nanofiber related systems partially address wound related issues, mainly focusing on skin regeneration and antibacterial activity. This invention provides an opportunity to selectively position active ingredients that could aid in inflammation control, moisture level and overall healing process of skin wounds.

Solution The proposed technology presents a 3D nanofiber membrane, possessing the ability to encapsulate therapeutic agents in different layers to deliver active ingredients while aiding in the healing and protection of the wound.

Value Proposition

This invention introduces a novel 3D nanofiber membrane with encapsulated therapeutic agents to aid in the healing and protection of skin wounds as well as to deliver agents used within the cosmetic industry such as moisturizing agents and skin nutrients.

Competitive Advantages

- Nanofiber scaffolds have proven effective in healing chronic and acute wounds through tissue regeneration and cell growth
- Functional wound dressings with tailored physicochemical and biological properties
- Facilitates application and prevents stains into clothing as ointments/gels would do

Status of Development

- Seeking commercial partners

IP Status

- Patent Pending

For further information regarding this Technology please contact:
Office of Technology Commercialization

1201 W. University Drive Edinburg, TX 78539 Email: otc@utrgv.edu Phone: