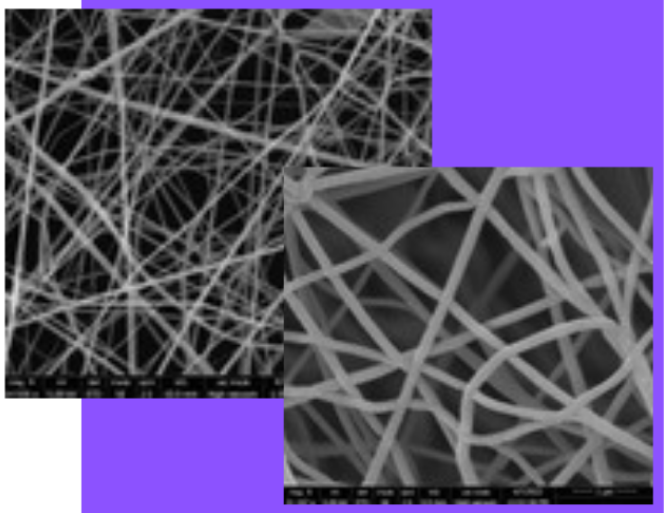
PLASMAGEAR

Wound Healing Materials



Biodegrable, Biocompatible,Natural Polymers

CAPABILITIES

We offer a range of customizable products designed to address the complex challenges of wound management and tissue regeneration.

1. Drug-Loaded Nano Fiber Scaffolds:
   - Nano fiber scaffolds, crafted from biocompatible polymers such as Polyethylene oxide (PEO) or Poly(lactic-co-glycolic acid) (PLGA), serve as effective drug delivery systems for wound healing. These scaffolds can be loaded with therapeutic agents, including antibiotics, growth factors, and anti-inflammatory drugs, to facilitate controlled release and targeted delivery to the wound site.
2. Tissue Engineering Platforms:
   - Nano fiber-based tissue engineering scaffolds, fabricated from polymers such as Polycaprolactone (PCL) or Polyvinyl alcohol (PVA), provide an ideal microenvironment for cell attachment, proliferation, and differentiation. By seeding these scaffolds with patient-derived cells or stem cells, we promote tissue regeneration and wound repair, facilitating the formation of new blood vessels and skin tissues.
3. Antimicrobial Wound Dressings:
   - Electrospun wound dressings, composed of polymers such as Chitosan or Polyurethane (PU), are imbued with intrinsic antimicrobial properties to combat infections. By incorporating antimicrobial agents such as silver nanoparticles or antimicrobial peptides, these dressings offer superior protection against microbial colonization while maintaining a moist wound environment conducive to healing.
4. Hemostatic Agents:
   - Hemostatic nano fiber materials, formulated from polymers such as Gelatin or Chitosan, swiftly control bleeding in traumatic wounds or surgical incisions. With their high surface area and rapid absorption capabilities, these materials facilitate the formation of stable blood clots, promoting hemostasis and preventing excessive blood loss.
5. Bioactive Wound Dressings:
   - Bioactive wound dressings, composed of polymers such as Hyaluronic acid or Collagen, are tailored to accelerate the wound healing process. By incorporating bioactive molecules such as growth factors or extracellular matrix proteins, these dressings provide essential cues to modulate cellular responses, stimulate angiogenesis, and promote tissue regeneration at the wound site.