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iFyber Awarded Grants for Advanced Wound Care Technology

Ithaca, NY – iFyber, a preclinical contract research organization specializing in chemistry, biology, and materials science, announced the award of SBIR Phase I Awards from the NIH to develop early stage wound care technologies, particularly targeting biofilms in infected wounds. One award will enable iFyber to expand upon its prior research in a nitric oxide releasing polymer. The other award allows evaluation of wound dressings augmented with antibiofilm peptides.

Chronic and infected wounds afflict 6.5 million people in the United States alone, causing extreme physical, psychosocial, and economic distress. The cost of treating these chronic wounds is estimated at $25 billion in the US alone. Biofilms, which are bacterial communities that are shielded by a stress-induced physiology and a protective blanket of organic material and resist conventional antibiotic treatments, are responsible for many of these chronic wounds. The technologies which iFyber is developing would combat these biofilms and, if successfully developed and commercialized, could bring relief to patients ailing with wounds that will not heal.

PVP/NO Technology: Nitric oxide (NO) is a small signaling molecule implicated in many physiological processes. At specific concentrations, NO exerts potent antimicrobial and anti-biofilm efficacy through several mechanisms. To this end, iFyber is developing a promising NO-releasing platform, referred to as PVP/NO, that is based on the commonly used biomedical polymer, polyvinylpyrrolidone (PVP). The strategy utilizes site-selective chemical modification of the PVP scaffold to afford a functionalized PVP polymer as an NO delivery vehicle. PVP/NO was invented by Joseph Hrabie and Larry Keefer at the National Cancer Institute and has been evaluated by iFyber since 2016.

Antimicrobial Peptide Dressing Technology: iFyber has partnered with Dr. Robert E. W. Hancock of ABT Innovations (Victoria, British Columbia) and a University of British Columbia Killam Professor, in developing novel wound care dressings containing potent broad-spectrum antibiofilm peptides as active components. The goal is to develop a peptide-based foam wound dressing that will elicit anti-infective properties and augment the natural process of wound healing, thus significantly reducing patient recovery time. While related peptides have been extensively explored for their antimicrobial activity, only recently have they been investigated for their anti-biofilm potential and as modulators of the host immune response.

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About iFyber:

iFyber is a preclinical CRO offering expertise at the interface between chemistry, biology and materials science, specifically in the medical device and pharmaceutical industries. iFyber offers unprecedented access to highly trained scientists and quick turnaround times to creatively solve problems and advance our clients' technology toward commercial reality. Contact us today for analytical method development, custom testing solutions, material characterization, biofilm susceptibility testing and more.

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