

Convocatoria de ayudas para la realización de proyectos coordinados en el marco de IBEROS. Anualidad 2018

Proyecto concedido

DATOS GENERALES:

Título proyecto: Silk fibroin-based membranes for sensing infection in chronic wounds
Entidades participantes (mínimo 2 entidades): Univ. Vigo, Univ. Católica Porto, INEB
Grupos de investigación: Grupo Nuevos Materiales (Univ. Vigo), Grupo de Biomaterials and Technology Lab (CBQF-UCP), Grupo BIOMARK (ISEP)
Investigadores principales: Ana Leite Oliveira, Pio Gonzalez, Julia Serra, Goreti Sales
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OBJETIVOS DEL PROYECTO (máximo 100 palabras):

Chronic wounds are a huge burden to our aging society, with an increasing rate of morbidity and mortality. The risk of infection in a chronic wound is particularly high. Early detection of infection through a sensing dressing would revolutionize wound therapy and management. However, most of the currently developed strategies are not fully efficient nor cost-effective.

In this project we aim at creating a simple wound dressing capable of providing an early detection of infection at point of care which would significantly enhance clinical decision-making, with the capability to rapidly indicate the need for treatment, with a direct impact in the patient life quality.

This project proposes the development of an innovative silk fibroin-based membrane system as a stabilizer and carrier of antioxidant and antimicrobial natural-based molecules to effectively treat chronic wounds, while incorporating colorimetric or electronic sensors to trace pH changes associated to infection.

PLAN DE TRABAJO:

1. Development of silk fibroin (SF)-based membranes.

2. Incorporation of a colorimetric or electronic pH sensor onto the membranes.
3. Physicochemical characterization and *in vitro* biological assessment of the membranes
4. Evaluation of the sensing capacity of the membranes using a wound simulator.

Proposed Timeline: **May 2018- September 2018**

