



Advanced Materials for Cardiac Regeneration (AMCARE)

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Research Areas



Tool Development

Resource



Basic Research

At a Glance

- Status: **Active Consortium**
- Year Launched: **2013**
- Initiating Organization: **European Comission Seventh Framework Programme (FP7)**
- Initiator Type: **Government**
- Location: **Europe**

Abstract

The Advanced Materials for Cardiac Regeneration (AMCARE) program, which will create 10 new positions, will carry out research to develop natural materials and new surgical devices to enhance the delivery of the body's own stem cells to the heart to promote healing after a heart attack (myocardial infarction) and prevent premature death. The therapies being developed will replace heart cells that die due to the reduced blood flow that occurs during a heart attack, with new healthy cells derived from stem cells that come from the patient's own bone marrow.

Mission

The AMCARE consortium aims to establish a translational research program to develop truly restorative therapies for acute myocardial infarction (MI) repair by optimizing cardiac progenitor cell (CPC) therapy using smart biomaterials and advanced drug delivery, and coupling these therapeutics with minimally invasive surgical devices. Two distinct biomaterial delivery systems for CPCs will be investigated in the AMCARE work program, including HA-based patches (CardioPatch) and HA-hydrogels (CardioGel). We also propose to develop two prototypes of new surgical devices (C-CathGel)



and SPREDS) that will ensure a minimally invasive delivery and fixation approach that are safe and effective for each therapeutic. The combinations of advanced material carriers and surgical devices will be assessed in a large animal model of acute-MI to best align our approach to clinical translation. The novel formulations and delivery methods will help post-MI patients in restoring cardiac function by targeting for repair the underlying myocardium damage, and could potentially decrease morbidity and mortality in the future. These goals will be achieved by integrating numerous areas of materials science and stem cell biology as well as leaders in the field of medical devices, biomaterials, and cardiovascular regeneration. We thus aim to improve long-term healthcare of European Union citizens by offering a revolutionary therapeutic modality for the treatment of acute-MI.

Consortium History

Launched: 11/01/2013

End date: 10/31/2017

Financing

Funded under FP7-NMP

Funding scheme: CP-TP - Collaborative Project targeted to a special group (such as SMEs)

Total cost:

EUR 8 694 507,6

EU contribution:

EUR 6 795 349

Other website

http://cordis.europa.eu/project/rcn/110863_en.html

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