Therapy after heart infarct: prevention of reperfusion injury and repair by stem cell transfer

**Fact Sheet**

**Project Information**

**INFARCT CELL THERAPY**

- Grant agreement ID: 222995
- Funded under FP7-HEALTH
- Project website
- Overall budget € 3 567 100
- EU contribution € 2 700 000
- Status Closed project
- Coordinated by MEDIZINISCHE UNIVERSITAET WIEN
- Austria

**Start date** 1 January 2009  
**End date** 30 June 2012

**Objective**

A key problem in repair and functional regeneration following myocardial infarction is the inability of heart muscle tissue to regenerate itself and appropriate vascularization under conditions of increased strain caused by the reduced contractibility of the damaged heart. This frequently leads to continuous loss of functional cells, further increase of the infarct area and finally complete loss of heart function. We propose to explore possibilities for cell therapy using different procedures and sources of stem and progenitor cells. First, we will investigate factors stimulatory for stem/progenitor cell release from the bone marrow, their recruitment to the heart and the activation of resident heart stem cells. Second, we will evaluate adoptive transfer of stem/progenitor cells of different sources, from bone marrow,
adult and cord blood, adipose tissue and heart tissue itself. The use of ex vivo cultured and differentiated cells including embryonic stem cells will be tested. Third, we will test genetic modification of these cells for improved differentiation, homing and tissue repair. Fourth, we will use a unique artificial scaffold material as a slow release device for factors and as a structural support material for providing the different cell preparations to the damaged areas. This scaffold will also be used for tissue engineering in vitro followed by insertion of artificial tissue onto the infarct area. This project of high clinical importance is designed to further support the research and development needs of two SMEs, one is determined to become a supplier of growth factor cocktails for clinical stem cell culture, a second is based on the generation and supply of stem cells for clinical use. It will evaluate whether induction of repair by factors, adoptive transfer of stem/progenitor cells or engineered tissue has benefit for heart regeneration and has potential to become a future clinical standard therapy.

Programme(s)

Topic(s)

Call for proposal

FP7-HEALTH-2007-B

Funding Scheme

CP-FP - Small or medium-scale focused research project

Coordinator

MEDIZINISCHE UNIVERSITAET WIEN

Address
Spitalgasse 23
1090 Wien
Austria

Activity type
Higher or Secondary Education Establishments

EU contribution
€ 464 700

Website
Contact the organisation

Administrative Contact
Erhard Hofer (Prof.)
<table>
<thead>
<tr>
<th>Organization</th>
<th>Country</th>
<th>EU contribution</th>
<th>Address</th>
<th>Activity type</th>
<th>Website</th>
<th>Administrative Contact</th>
<th>Contact the organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIB VZW</td>
<td>Belgium</td>
<td>€ 300 000</td>
<td>Rijvisschrestaat 120 9052 Zwijnaarde - Gent</td>
<td>Research Organisations</td>
<td>[Link]</td>
<td>Peter Carmeliet (Prof.)</td>
<td>[Link]</td>
</tr>
<tr>
<td>UNIVERSIDAD DE NAVARRA</td>
<td>Spain</td>
<td>€ 282 000</td>
<td>Campus Universitario Edificio Central 31080 Pamplona</td>
<td>Higher or Secondary Education Establishments</td>
<td>[Link]</td>
<td>Cristina Patsouris (Dr.)</td>
<td>[Link]</td>
</tr>
<tr>
<td>TEL AVIV UNIVERSITY</td>
<td>Israel</td>
<td>€ 282 000</td>
<td>Ramat Aviv 69978 Tel Aviv</td>
<td>Higher or Secondary Education Establishments</td>
<td>[Link]</td>
<td>Lea Pais (Ms.)</td>
<td>[Link]</td>
</tr>
</tbody>
</table>
Germany

EU contribution
€ 312 000

Address
Kerpener Strasse 62
50937 Koeln

Activity type
Higher or Secondary Education Establishments

Website
Administrative Contact
Jutta Landvogt (Ms.)

BEN-GURION UNIVERSITY OF THE NEGEV

Israel

EU contribution
€ 285 000

Address
84105 Beer Sheva

Activity type
Higher or Secondary Education Establishments

Website
Administrative Contact
Daphna Tripto (Ms.)

REGION HOVEDSTADEN

Denmark

EU contribution
€ 327 000

Address
Kongens Vaenge 2
3400 Hillerod

Activity type
Public bodies (excluding Research Organisations and Secondary or Higher Education Establishments)

Website
Administrative Contact
Jens Kastrup (Prof.)

EUROBIOSCIENCES GMBH

Germany

EU contribution
€ 231 300
VIVOCELL BIOSOLUTIONS GMBH & CO KG

Austria

EU contribution
€ 216 000

Address
Stattegger Strasse 60
8045 Graz

Activity type
Private for-profit entities
(excluding Higher or Secondary Education Establishments)

Website

Contact the organisation

Administrative Contact
Karl-Heinz Preisegger (Prof.)