Development of a bioartificial pancreas for type I diabetes therapy

Fact Sheet

Project Information

BARP+

Grant agreement ID: 505614

Project closed

Start date
1 January 2004

End date
31 December 2006

Funded under
Nanotechnologies and nanosciences, knowledge-based multifunctional materials and new production processes and devices: thematic priority 3 under the 'Focusing and integrating community research' of the 'Integrating and strengthening the European Research Area' specific programme 2002-2006.

Total cost
€ 3 622 479,00

EU contribution
€ 2 495 600,00

Coordinated by
CENTRE EUROPEEN D'ETUDES DU DIABETE
France

This project is featured in...

Objective

Four to five million people in Europe and about 80 million worldwide suffer from type 1 diabetes (insulin-dependent), characterized by a deficiency in insulin secretion resulting in hyperglycaemia responsible for debilitating long-term complications (coronary diseases, acquired blindness, chronic renal failures). Recently developed immunosuppressive protocols improved the success of humanallogenic pancreatic islets transplantation. However, such transplantation has severe limitations: the number of available donors and the potential toxicity of the immunosuppressive treatments. To avoidimmunosupression, islets could be encapsulated to protect them from the attack of the immune system and thus from rejection.
This project intends to develop, improve and validate an efficient reliablebioartificial pancreas for human application. To achieve this ambitious goal, various disciplines reintegrated in a true task force of basic and clinical researchers with leading expertise in experimental diabetes and advanced modern material technologies to develop an effective approach for the treatment of type 1 diabetes. The proposed approach takes into account the far-reaching advances in the modernnanosize technology, which are of utmost importance for the success of this challenge. To canny out the project to a successful achievement, the consortium gathers a multidisciplinary group of leading European scientists with complementary competencies, spending from biomaterials to tissue engineering, and high-tech Sees. This transactional approach provides convincing solutions to bypass the limitations of traditional treatments of this disease. That proposal fits perfectly within the scope of Priority Nan technologies and Nan sciences, 3.4.1 in particular Biotechnologies-biotechnologies, 3.4.1.2.Furthermore the proposal addressed also the 3.4.1.5 Application in areas such as health and medical systems, chemistry, energy, optics, food and environment.

Fields of science (EuroSciVoc)

medical and health sciences > medical biotechnology > **tissue engineering**

medical and health sciences > clinical medicine > endocrinology > **diabetes**

medical and health sciences > basic medicine > **immunology**

medical and health sciences > medical biotechnology > cells technologies > **stem cells**

medical and health sciences > clinical medicine > **transplantation**

Keywords

Artificial Organs | Biotechnology | Cell & Tissue Engineering | Diabetes | Medical Device | Molecular#

Programme(s)

FP6-NMP - Nanotechnologies and nanosciences, knowledge-based multifunctional materials and new production processes and devices: thematic priority 3 under the 'Focusing and integrating community research' of the 'Integrating and strengthening the European Research Area' specific programme 2002-2006.

Topic(s)

NMP-2002-3.4.1.2-1 - Interfaces between biological and non biological entities

NMP-2002-3.4.1.5-2 - Applications in the field of energy and chemistry, with focus on catalysis

Call for proposal

FP6-2002-NMP-1
See other projects for this call

Funding Scheme

STREP - Specific Targeted Research Project

Coordinator

CENTRE EUROPEEN D'ETUDES DU DIABETE

EU contribution

No data

Total cost

No data

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Participants (13)

ASSOCIATION POUR LES TRANSFERTS DE TECHNOLOGIE DU MANS

France

EU contribution

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Total cost

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EU contribution

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Total cost

No data

UNIVERSITE LIBRE DE BRUXELLES

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EU contribution

No data

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Total cost

No data

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