

Australian Foundation For Diabetes Research

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NEWSLETTER
MAY 2024

Patent Granted in USA and Europe

We are pleased to advise that the Australian Foundation for Diabetes Research (AFDR) has been granted a patent for its scaffold that is being used to assist in the delivery of microcapsules containing replacement human insulin-producing cells. These cells normalize blood sugar levels of diabetic mouse recipients.

The granting of the patent in Europe (below) and the USA supplements that which was granted by the Australian Patent Office in June 2022.



EUROPÄISCHES PATENT | EUROPEAN PATENT BREVET EUROPÉEN

Hiermit wird bescheinigt, dass für die in der Patentschrift beschriebene Erfindung ein europäisches Patent für die in der Patentschrift bezeichneten Vertragsstaaten erteilt worden ist.

It is hereby certified that a European patent has been granted in respect of the invention described in the patent specification for the Contracting States designated in the specification.

Il est certifié par la présente qu'un brevet européen a été délivré pour l'invention décrite dans le fascicule de brevet, pour les États contractants désignés dans le fascicule.

Europäisches Patent Nr.
European patent No.
Brevet européen n°

Tag der Bekanntmachung des Hinweises auf die Erteilung des europäischen Patents
Date of publication of the mention of the grant of the European patent
Date de la publication de la mention de la délivrance du brevet européen

EP3528860

06.12.2023

CELL ASSOCIATED SCAFFOLDS FOR DELIVERY OF AGENTS

Patentinhaber | Proprietor(s) of the patent | Titulaire(s) du brevet

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António Campinos

Präsident des Europäischen Patentamts | President of the European Patent Office | Président de l'Office européen des brevets
München, den | Munich, le **06.12.2023**

URKUNDE | CERTIFICATE | CERTIFICAT

Certificate from the European Patent Office advising the issuing of a patent concerning the scaffolds that are being used to deliver cells to diabetic recipients.

"We are excited about obtaining this patent", said Director of the AFDR, "as it gives us leverage in the future commercialisation of our device."

Consumer Advisory Panel

In preparation for a future clinical trial with stem-cell derived insulin-producing cells in diabetic humans, we have established a Consumer Advisory Panel.

It consists of people with type1 diabetes, who may eventually benefit from receiving the stem cell therapy, administered without the need to take oral anti-rejection drugs.

The chair of the Panel is Ms Margaret Bonnington from Dubbo. She had type 1 diabetes for 67 years and currently administers insulin through an infusion pump, something she has done for 23 years.



Margaret Bonnington sitting in her arm chair at home whilst talking about what a diabetes cell therapy without anti-rejection drugs would mean to people with T1D – "Freedom".

The Panel met for the first time in September last year with the aim of providing input to the clinicians and scientists working on the Project. "We want to ensure that our voice is heard throughout its many phases, both pre-clinical in the laboratory, and when the clinical trial eventually gets underway", said Ms Bonnington.

It is expected patient engagement from the Panel will be greatest in the application that will be made to the Human Research Ethics Committee for regulatory approval of a clinical trial.

The importance of consumer driven research has been highlighted by the Medical Research Future Fund (MRFF), a \$20 billion long-term investment supporting health and medical research in Australia. The AFDR has made an application for support from the MRFF Frontiers Program.



Liaison with University of Wisconsin

The AFDR continues to work to improve its bioengineered device to deliver insulin-producing cells to those with insulin-requiring diabetes. “Our goal is to deliver cells to patients in a device that protects the cells from rejection by the immune system of the host”, said Professor Tuch. “Additionally, we want to increase the blood flow through the device, so that the cells receive sufficient nutrition and oxygen to function efficiently”.

To assist in the goal a collaboration has been entered into with a colleague Professor Jon Odorico, a transplant surgeon at the University of Madison in Wisconsin, USA. Professor Odorico and his team are providing a matrix that when added to the device enhances nutrition to the cells.



Professor Jon Odorico is the Director of the Pancreas and Islet Cell Transplantation Programs at the University of Wisconsin-Madison School of Medicine and Public Health. He previously served as President of the International Pancreas and Islet Transplant Association.

War in the Middle East

The AFDR obtains stem cell differentiated insulin-producing cells from the company Kadimastem, which operates in the western part of Israel, near the world renowned Weizmann Institute of Science. These cells are derived from human embryonic stem cells over a period of 28 days of culture during which time the cells are exposed to specific growth factors and other agents for defined periods of time.

The recent war in Gaza has meant delays in obtaining cells, mainly because flights from Israel are not as prolific as in the past. Whereas it would take up to 48 hours for the cells to arrive previously, it now takes 72 hours or more. This can affect the viability of the cells, although maintaining them at 4-6C in a “refrigerator” for the flight mostly offsets this problem.



Export Market Development Grant

An Export Market Development Grant (EMDG) has been awarded to the AFDR to assist it in obtaining overseas patenting advice concerning its scaffolds. Additionally, the Grant will be used to promote the use of the scaffolds by entities outside Australia interested in delivering cell therapies to patients without the need for anti-rejection drugs.

It may also be used for enhancing the skills of members of the AFDR to market its product overseas.

The AFDR has signed an Agreement concerning the EMDG with the Australian Trade and Investment Commission covering the two financial years 2024 and 2025.



Benefactor Support

We are grateful to our many benefactors whose support is allowing us to pursue the dream of replacing the need for insulin administration with a cell therapy that may last for at least 5 years.

The AFDR has received several bequests over the years, the latest being from a business person who also liked to dream, and so could identify with the Diabetes Project. He and his family have significantly supported the AFDR annually for the past 17 years. Even with his demise last year, he continued to give, as a bequest in his will. Both he and his spouse are modest people, who delight in supporting others in the community. That is their reward. These people, who wish to remain anonymous, are a shining beacon to others.

As it says in Proverbs 11,27: “The beneficent soul shall be made rich, And he that satisfieth abundantly shall be satisfied also himself”.

The support that the AFDR has received from benefactors for its Diabetes Project has been assisted over the past 4 years by the National Stem Cell Foundation of Australia (NSCFA). That benevolent entity has matched \$ for \$ in line with a Donor Supported Research Funding Agreement between the two entities.





MAKING A DONATION

There are three ways you can make a donation to support the *Bioengineered Diabetes Therapy Project*, being conducted by the AFDR:

1: Via Credit Card

2: Via cheque/money order payable to the Australian Foundation for Diabetes Research PO Box 821, Maroubra NSW 2031
OR

*National Stem Cell Foundation of Australia (NSCFA) PO Box 140, McCrae VIC 3938

3. Via Bank Transfer to the Australian Foundation for Diabetes Research: BSB 062 230, Account Number 1027 3887
OR

*National Stem Cell Foundation of Australia BSB 083 266, Account Number 12305 0040

* The NSCFA has an arrangement with the AFDR to match \$ for \$ for donations ≥ \$500. Thus, if you donate \$1000 to the NSCFA for the Diabetes Project, the NSCFA will give the AFDR \$2000. Both the AFDR and NSCFA are endorsed as *Deductible Gift Recipients*.

If donating through the NSCFA, please advise the AFDR (afdr@optusnet.co.au)

Via Credit card:

Amount:

- \$50 \$100 \$200
- \$500 \$1000
- \$4200 = shipment of cells from Israel
- Other \$.....

- Visa Mastercard

Name on card
.....
Card number ____ / ____ / ____ / ____
Expiry/..... Validation number ____

MAKING A BEQUEST

I give to the Australian Foundation for Diabetes Research:

- the sum of _____,
- the following assets in my estate: _____, or
- ___ percent of my estate, free from all duties thereon.

* When drafting your will, please select only the relevant alternative.

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