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NATIONAL STEM CELL CENTRE FUNDS PIONEERING RESEARCH PROJECTS

Thirteen research projects, to be carried out at six leading institutions across the country, have been selected to spearhead the strategic efforts of Australia's National Stem Cell Centre (NSCC).

The projects fall under the NSCC's four core research platforms – embryonic stem cells, adult stem cells, tissue repair and immune modulation – as well as two therapeutic focus programs focussing on products for the treatment of blood and heart diseases. These will include therapeutics for the treatment of diseases such as leukaemia and chronic heart failure.

In another development, Dr Hugh Niall, a founding Director of the NSCC and former CEO of listed biotech company Biota Holdings Ltd, has been confirmed in the position of Chief Executive Officer of the NSCC.

NSCC Chairman, Bob Moses, said the appointment of Dr Niall, who has been acting in the role since July, followed an international search for the best person for the job. He said the NSCC Board had conducted a diligent and thorough recruitment process.

"We are very pleased that a highly experienced biotechnology executive of the calibre of Hugh Niall is available to lead the NSCC as it establishes itself as Australia's Centre of Excellence in this exciting scientific field," Mr Moses said.

NSCC Chief Executive Officer, Dr Hugh Niall, said the Centre was proud and excited about the quality of scientists and institutions receiving support in the NSCC's first funding round.

"We have invested considerable time and effort to ensure that the research projects backed by the NSCC represent Australia's best chance for success in this pioneering field," Dr Niall said.

"The Centre has developed an extensive review and reporting structure to ensure the research undertaken is relevant to patients and their doctors, is internationally competitive, and is of the highest ethical standards."

In a rigorous review process involving local and international experts, nearly 50 applications were assessed for their strategic fit with the NSCC's scientific and commercial objectives as envisioned under the Federal Government's funding agreement.

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The Centre's 13 initial research projects are set to be undertaken across four states at the Peter MacCallum Cancer Institute, the Victor Chang Cardiac Research Institute, the University of Adelaide, the University of Queensland, Monash University and the NSCC. The collective funding for research is projected to be approximately $14 million over the next three years. Initial funding for the projects has been provided for 11 of the 13.

"This research strategy establishes the NSCC as a truly national institution and demonstrates our ability to work in partnership with Australia's leading medical and scientific bodies to build on this country's competitive edge in stem cell and tissue repair research," Dr Niall said.

Dr Niall acknowledged the NSCC's funding support from the Commonwealth Government – through the Department of Industry, Tourism and Resources, the Australian Research Council and the Department of Education, Science and Training – and from the Victorian Government.

A second round of funding allocations by the NSCC will occur in the first half of 2004 and will see the research strategy expanded with new projects as well as additional expertise and resources. New funding will involve groups at a broader range of research institutes and universities.

In addition, the NSCC has provided a $65,000 grant for the establishment of an Independent Ethics Advisory Committee to examine the ethical, legal and social issues relevant to the work in stem cells and tissue repair. This Independent Stem Cell Ethics Advisory Committee is being organised by Professor Bob Williamson of the Murdoch Children's Research Institute and will have 12-16 members covering a diverse range of views.

Media Inquiries

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National StemCell Centre

Research Platform and Project Details

Embryonic Stem (ES) Cells

Embryonic stem cells are able to produce all cells of the human body. Research will seek to develop improved methods of growing ES cells and causing these cells to become specific mature cells, which has the potential to facilitate repair and replacement of damaged organs and tissues. Specific areas of research include:

- Biological foundations of human ES cell technology
- ES cell propagation and lineage directed differentiation

Adult Stem Cells

Adult stem cells occur in bone marrow and many other tissues. Improvements in isolation, growth and delivery to a patient will aid development of treatments to repair or replace damaged organs and tissues. Approaches to stimulate a patient's own stem cells will also be examined. Specific areas of research include:

- Isolation, identification, propagation and delivery of adult stem cells
- Haemopoietic stem cell niches

Tissue Repair

The tissue repair research of the NSCC is focussed on developing materials which can be used to culture stem cells and deliver them to a patient to enable repair.

- Acellular matrix for tissue regeneration

Immune Modulation

Immune modulation research will examine methods to overcome the body's natural rejection response so that cells can be transplanted from one person to another without the need for anti-rejection medications. Specific areas of research include:

- Thymic manipulation
- Reprogramming of somatic cells
- Dedifferentiation and reprogramming

Therapeutic Focus

- Haematopoiesis

Haematopoiesis is research into blood forming cells to replace bone marrow in patients undergoing cancer treatment or to provide safe blood transfusions.

- Cardiac

Cardiac regeneration research will focus on rebuilding damaged or diseased heart tissue.

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NSCC Background

The National Stem Cell Centre is a major collaborative effort, uniting some of Australia's leading researchers and scientists, with key nodes in four Australian states – Victoria, New South Wales, Queensland and South Australia.

It was formed out of the 'Backing Australia's Ability' initiative of the Commonwealth Government to establish a Biotechnology Centre of Excellence, and was awarded $43.55 million in Commonwealth funding through the Australian Research Council and the Department of Industry, Tourism and Resources to:

1. Deliver therapeutic treatments from stem cell and tissue repair biotechnology for economic and social benefits;
2. Increase Australia's biotechnology reputation and global competitive advantage; and
3. To enhance public awareness of stem cell and tissue repair research.

A further Commonwealth grant of $5.5 million was awarded to the NSCC to establish a Major National Research Facility (MNRF) and an $11.375 million supporting grant came from the Victorian Government under its Science, Technology and Innovation program.

The Centre's overall objectives are to build on Australia's world-leading position in specific areas of stem cell research and then translate this research into successfully treating patients via the commercialisation of therapeutic applications.