



# Australian Academy of Science

Ian Potter House, Gordon Street, Canberra 2601

## **A Letter from the Australian Academy of Science to Members of Parliament on the Lockhart Report and Patterson Bill**

Dear Members of the House of Representatives,

The Australian Academy of Science is the peak scientific body in Australia, equivalent to the National Academy of Science in the United States and the Royal Society in Great Britain. It offers the honour of Fellowship by election to a small number of prominent scientists each year. The Academy has a total Fellowship of 395, including all Australian Nobel laureates. We have presented evidence on the Lockhart Review on Stem Cell Research to the Community Affairs Committee of the Australian Senate. We have consistently supported the view that it is possible to find a way forward with regard to stem cell research that will allow Australia to participate effectively in the international effort for medical advance, while adhering to strict ethical principles.

There have been many major advances in stem cell research (using both adult and embryonic stem cells) during the period since 2002. New data have been generated that show the value of both embryonic and adult stem cells, and somatic cell nuclear transfer, in informing endeavours to improve the health of Australians. Legislative changes overseas also provide reasons to update the 2002 Acts.

The Academy agrees, on the basis of the expert advice of its Fellows, that both adult and embryonic stem cell research offer great potential in medical research. Adult stem cells from a patient have the great advantages of proven safety and the absence of immune rejection. Embryonic stem cells, and their relatives made by somatic cell nuclear transfer ("therapeutic cloning"), have the great advantages of being able to make every kind of cell in the body and to multiply indefinitely. The recommendations of the Lockhart Committee will allow both adult and embryonic stem cell research to proceed in parallel to maximise the opportunity of developing medical applications from this research.

We note that the Lockhart Committee was appointed by the Commonwealth Government from persons recommended by the Commonwealth and State Ministers of Health, and that its six members are highly respected mainstream figures in law, ethics, science and medicine, including Australia's most recent Nobel laureate. After spending approximately six months reading submissions, and hearing and evaluating evidence from all points of view, the Lockhart Committee unanimously proposed 54 recommendations.

The Australian Academy of Science supports the recommendations of the Lockhart Committee. In particular, the Academy:

- Endorses Lockhart's recommendation that the existing ban on human *reproductive* cloning continues, noting that the ban is enforced by laboratory inspections by the NHMRC and by strong legal penalties including imprisonment.

- Agrees with Lockhart that institutional Ethics Committees and the NHMRC Licensing Committee have key roles to play in regulating research involving IVF embryos no longer required for transfer, and somatic cell nuclear transfer.
- Notes that many of the Lockhart Review recommendations are not controversial but designed to clarify existing regulations. These include those dealing with unfrozen embryos that are unsuitable for transfer, research into cytoplasmic transfer for mitochondrial disorders, and staff training.
- Supports Lockhart's recommendations that IVF embryos not required for or fit for transfer should be available for research when approved by institutional research ethics committees and licensed by the NHMRC Licensing Committee.
- Supports the conduct of laboratory research using somatic cell nuclear transfer and other procedures for deriving stem cells to assist in the development of better treatment for serious disorders such as type one diabetes, motor neuron disease and Parkinson disease. The Academy sees such research as offering promise in the generation of knowledge and remedy for multifactorial disorders that are not due to a single gene mutation, where the disease causes cell death, and where accurate animal models are not available. Somatic cell nuclear transfer may also provide data on how to prevent the problems of immune rejection of donated cells or tissues, and a model for understanding how humans may avoid possible risks, like cancer, that may be associated with embryonic stem cell therapy.
- Notes that research using somatic cell nuclear transfer is permitted under regulation in the United Kingdom, Singapore, Canada, New Zealand, Sweden, Belgium, Spain, Finland, Israel and with no regulation (apart from a ban on the use of Federal funds) in the United States. Retaining a total ban on somatic cell nuclear transfer in Australia, rather than allowing this to proceed under strict and transparent regulation, will disadvantage Australian researchers and the Australian economy. The less restrictive regulatory environment overseas has already led a number of prominent stem cell scientists to leave Australia for the United States.
- Supports the establishment of a Stem Cell Bank in Australia, preferably in collaboration with other countries. A stem cell bank will minimise the number of embryonic and somatic cell nuclear transfer cell lines needed to generate health benefits from research.

For these reasons, we commend the Patterson Bill to all members of the House of Representatives and urge you to support its passage. As the Academy is based in Canberra, we can offer scientific information to any member who wishes to use our knowledge and expertise during the coming period.

Professor Kurt Lambeck (President), Professor Philip Kuchel (Secretary, Science Policy), Professor Sue Serjeantson (Chief Executive), Professor John Shine (Secretary, Biological Sciences) and Professor Bob Williamson (Chair, National Committee for Medicine).

November 24, 2006.