Cloning

Scientist who cloned himself

FIONA MACRAE

London

A SCIENTIST has achieved a world first ... by cloning himself.

In a breakthrough certain to spark an ethical furor, Samuel Wood created embryo copies of himself by placing his skin cells in a woman's egg. The embryos were the first to be made from cells taken from adult humans. Although they survived for only five days and were smaller than a pinhead, they are seen as a milestone in the quest for treatments for such diseases as Alzheimer's and Parkinson's.

But critics fear the technology could be exploited by mavericks to clone babies and accused the scientists of reducing the miracle of human life to a factory of spare parts.

Researchers from the Californian stem-cell research company Stemagen employed the same technique used to make Dolly the sheep, the world's first cloned mammal, to create the embryos.

They took eggs donated by young women having IVF treatment and replaced genetic material with DNA from the skin cells of two men.

The eggs were then zapped with an electric current to induce fertilisation and the creation of embryos. Some of the skin cells came from Wood, Stemagen's chief executive officer and a leading fertility specialist, while the others came from another member of staff. The result was a handful of embryos, at least three of them clones of Wood and the other man.

Although all were destroyed in the process, the technique is seen as a vital step in the creation of cloned embryos rich in stem cells, which are "master cells" capable of becoming any type of body tissue.

Such stem cells could be invaluable in the study of diseases and the testing of drugs. They could ultimately be used to replace the damaged tissues behind diseases from Alzheimer's to diabetes.

Stem cells taken from cloned embryos would be a perfect match to the patient, whose body would not reject them.

Wood, an unmarried father of two in his forties, called his work a "crucial milestone".

But John Smeaton, of the UK Society for the Protection of Unborn Children, said: "We have got scientists wandering around in an ethical wilderness, forgetting about matters of justice relating to our fellow human beings. We have people creating human beings with the intention of destroying them. That's appalling."

Britain's fertility regulator has given scientists the green light to create human-animal hybrid embryos for research, but opponents have labelled the move a "disastrous setback for human dignity."

The Human Fertilisation and Embryology Authority approved applications from King's College London and Newcastle University to create "cytoplasmic" embryos, which merge human cells with eggs from animals such as cattle or rabbits. Researchers want to produce hybrids that are 99.9 per cent human and 0.1 per cent animal.

DAILY MAIL, AP

Chance for new ethical cloning

DAVID VAN GEND

Has there ever been a greater antediluvian in science than the announcement last week that a cloned human embryo had been created? Even a few months ago the news would have flooded the world's media; now it hardly rates a mention.

The reason is clear: on November 21 last year, cloning as a serious science suddenly died, and was superceded by a technique so simple and powerful (and entirely ethical) that it has left the world of stem cell research both stunned and elated.

The cloning research published on Friday in the journal Cell was performed a year ago, when scientists still believed cloning was the only way to get hold of specialised embryonic stem cells. That is no longer the case, and no scientist in 2008 has any compelling reason to attempt human cloning.

In November, two teams of scientists published a new technique of "reprogramming" adult cells to an embryonic state without creating or destroying a human embryo. These "induced pluripotent stem cells" (iPS cells) show all the properties of cloned embryonic stem cells, but are obtained easily and ethically by simple manipulation of the skin cells of an adult.

This is good news for science, which has still never been able to obtain a single stem cell by cloning embryos, and even better news for those of us who find it unthinkable that embryonic humans should be created with the sole purpose of destroying them in research.

CANBERRA TIMES

Date: 25/1/2008

Page: 25

Most remarkable has been the graciousness with which leading advocates of cloning have accepted its demise, and moved wholeheartedly towards the ethical new science of reprogramming adult cells. First Professor Ian Wilmut, who cloned Dolly the sheep and holds the British licence to clone humans, announced in November that he was walking away from his cloning licence in favour of iPS reprogramming, which he declared to be both "100 times more interesting" and "easier to accept socially". At the same time Professor James Thomson, who first discovered human embryonic stem cells, proved that these new iPS cells derived from human skin had every property of cloned embryonic stem cells, and declared, "Isn't it great to start a field and then to end it?" And this month in the journal Nature, the former director of embryonic stem cell research at the Australian National Stem Cell Centre, Professor Martin Pera, writes of "a new year and a new era". "The generation of iPS cells through direct reprogramming avoids the difficult ethical controversies surrounding the use of embryos for deriving stem cells. There are no remaining uses for cloning-only abuses-and because these abuses are now possible, they demand proactive legislation nationally and internationally.

We know that certain overseas doctors fully intend to be the first to bring a cloned embryo to birth. They are supported by academics such as Melbourne's Daniel Elaner, who wrote in the Journal of Medical Ethics in 2006: "People who wish to reproduce by cloning should be permitted to do so, provided there is no reasonable alternative."

Continued next page