

Green Light for Designer Babies

Britain Gives Go-Ahead for Experiments

Zenit, 11 februari 2016



Britain's Human Fertilisation and Embryology Authority (HFEA), which regulates the IVF industry, has approved a proposal from the Francis Crick Institute in London which will enable it to undertake genome editing on human embryos.

The approval is limited to this one institution and allows them to apply the technique and study the results only for the first 14 days of an embryo's life, without any implantation of an embryo into women. The research will be carried out using a technique known as CRISPR/Cas9. This works by using the Cas9 enzyme to cut human DNA, which means scientists can either remove damaged genes, or insert new ones. According to an explanation of the technique posted Jan. 13 on the New Scientist Website only half of all IVF embryos develop sufficiently to be implanted in women, and less than half of those are carried to term.

The work at the institute will be led by Dr Kathy Niakan. In a statement earlier this year she explained her interest in this research. "We would really like to understand the genes needed for a human embryo to develop successfully into a healthy baby," the BBC reported Feb. 1. "I am delighted that the HFEA has approved Dr Niakan's application. Dr Niakan's proposed research is important for understanding how a healthy human embryo develops and will enhance our understanding of IVF success rates, by looking at the very earliest stage of human development," said Paul Nurse, director of the institute, according to a Feb. 1 report by the Guardian newspaper.

Modifying, then killing embryos

According to the article published by the New Scientist Niakan wants to use the CRISPR technique to disable genes in single-cell embryos, just a day old. Then, after about seven days the team will kill the embryos and analyse their structure to see what, if any, disruption there has been to the embryos' ability to organise. Many groups expressed serious concerns about the approval. Dr David King, director of Human Genetics Alert, said: "This is the first step in a well mapped-out process leading to GM babies, and a future of consumer eugenics," the Guardian article reported. The pro-life group LIFE issued a press release the day of the Feb. 1 announcement calling for a ban on the genetic modification of human beings. "We do not know what long term side effects the tampering with some strands of DNA could have on other strands. However once genetic changes have been made they will be irreversible and handed down to future generations," explained LIFE Education Director Anne Scanlan. "We are also concerned that such controversial intervention in the human germline opens up the very real possibility of eugenics where the existence of human beings becomes conditional on the possession of certain physical characteristics," she said.

The Anscombe Bioethics Centre denounced "yet more destructive experimentation on human embryos," the Catholic Herald reported Feb. 2. "Experiments to edit the genes of human embryos represent a further step towards the creation of GM babies," commented David Jones, director of the Oxford-based institute. He said gene editing would be legitimate "only where it is safe and beneficial for the individual patient and not where it aims to affect future generations." "The real promise of 'gene editing' techniques is the hope of ethical and effective therapy of children or adults who were born with conditions that currently have no cure," he continued.



“Research should focus on development of safe and effective somatic gene therapy, not on yet-more-destructive experimentation on human embryos.”

Another pro-life group, CORE, added its voice to the concerns raised by the approval of the gene editing experiments.

Made to order babies

Josephine Quintavalle, the Director of CORE, told Vatican Radio in a Feb. 2 report that they are opposed to any destructive research on human embryos and agreed with those critics who say that this decision marks the first step along the road towards babies being created to order. Quintavalle also noted that some previous approvals for scientific research on human embryos in Britain were based on “lots of nonsense promises” made about the potential benefits of such experiments that then failed to live up to those promises.

Some scientists have also voiced opposition to the experiments. Before the approval was given an open letter was written by around 150 scientists and other experts calling for a global ban on genetic editing. Among them were Dr Michael Antoniou, Head of the Gene Expression and Therapy Group at Kings College London, and Professor Donna Dickinson, emeritus professor of medical ethics at the University of London, the Telegraph newspaper reported Nov. 30. “Gene editing may hold some promise for somatic gene therapy (aimed at treating impaired tissues in a fully formed person). However, there is no medical justification for modifying human embryos or gametes in an effort to alter the genes of a future child,” the letter, posted on the Website of the Center for Genetics and Society, explained. “Genetically modified children who seem healthy at birth could develop serious problems later in life, some perhaps introduced by purported enhancements. Other harmful consequences of germline modification might only present themselves in subsequent generations,” the letter explained.

The scientists also warned against the danger of “high-tech consumer eugenics” which could result from the use of genetic modification in humans. If heritable genetic modification becomes available it could lead to new forms of inequality and discrimination.

In spite of all the possible negative consequences Britain has now started down the path of genetic manipulation of human life: Where this path will lead remains to be seen.