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BRITISH SCIENCE

Pioneering Stem Cell Bank Will Soon Be Open for Deposits

The world's first embryonic stem cell bank should be up and running within a year.

The U.K. Medical Research Council (MRC) announced on 9 September that it has awarded a contract to establish the new bank, which will collect and distribute stem cell lines derived from human embryos and fetal and adult tissue.

Scientists hope they can learn to use stem cells to treat a range of maladies such as diabetes and Parkinson's disease. If that dream is realized, the bank might someday hold thousands of human embryonic stem (hES) cell lines, says George Radda, executive director of MRC. The idea is to collect enough cell lines to match the immune system of any possible patient, he says. By some estimates that could require as many as 4000 cell lines. The project will begin on a much smaller scale, though. The National Institute for Biological Standards and Control (NIBSC), which will run the bank, will receive £2.6 million ($4 million) over 3 years, three-quarters from MRC and one-quarter from the Biotechnology and Biological Sciences Research Council.

Clarifying plans. NIBSC won a $4 million contract to run the bank.

The bank could help the United Kingdom establish a lead in stem cell research. Federal funds cannot be used for embryo research in the United States, and the European Union is still debating its policy (see sidebar), but scientists in the United Kingdom can use government money to derive new hES cell lines. (hES cells, which can in theory become any type of cell in the body, are controversial because they are derived from week-old human embryos.) "We in Britain now have a world-leading advantage and need to make sure we can exploit that," says Radda.

U.K. researchers must obtain a license from the national Human Fertilisation and Embryology Authority to derive new cell lines, and one of the conditions of the license is that any resulting cell lines must be deposited in the stem cell bank. In addition, the bank "will actively recruit" the holders of existing hES cell lines around the world to deposit their cells, Radda says, and it will work out intellectual-property agreements with cell donors on a case-by-case basis.

The bank will make cells available to researchers worldwide, although all donors and recipients will have to abide by ethical conditions yet to be set by the bank. Academic researchers will pay a modest fee for the cells, Radda says, but the bank hopes to support itself in part through higher fees from commercial researchers. An independent steering committee—to be announced in the coming weeks—will draw up the bank's detailed rules of operation.

NIBSC, located in Potters Bar, just outside London, oversees standards and safety for a range of biological products including vaccines, blood products, and hormones. Stephen Inglis, the institute's director, says the bank will not conduct research on the cell lines, but it might help establish standards for culturing and characterizing various types of stem cells, something the field still lacks. It would also oversee safety issues for any future clinical trials with the cells.

The bank "is an extremely important move" for the stem cell field, says Roger Pedersen of the University of Cambridge. "One of the most difficult points for anyone starting out in the field is getting hold of well-characterized cells," he says. The stem cell lines that Pedersen's lab derived when he was a researcher at the University of California, San Francisco (UCSF), might not end up in the bank, however. UCSF holds the rights to the cells, and university spokesperson Jennifer O'Brien says it's unclear whether the university would relinquish control of the cells to another body. Indeed, it's an open question how many holders of existing hES cell lines will be willing to relinquish even partial control of one of biomedicine's hottest commodities. —GRETCHEN VOGEL

Framework and Stem Cells: The Fight Goes On

Disagreements over stem cell research have again thrown the European Union's 6th Framework program into turmoil. The 5-year, $17.4 billion research program is due to be officially launched in early November, but its final approval has been delayed by drawn-out wrangling over what kinds of embryo research the program can support. Now the latest deal has been derailed.

Research on human embryos and the embryonic stem cells derived from them is only a tiny slice of the program's total budget, but it is by far the most controversial area. Some E.U. states have their own strict prohibitions on embryo research and have clashed with those in favor of allowing research to go forward. A compromise proposed in late July would have prohibited funding for research that would harm human embryos—such as the derivation of new embryonic stem cell lines—until the end of 2003. E.U. funds could have continued to support research on already-existing cell lines while a committee drew up new rules for embryo research for the remaining 4 years of the 6th Framework program.

The E.U. Council of Ministers was set to give its final approval to the plan on 6 September, but several members of the European Parliament protested that the moratorium had not been authorized by Parliament and was therefore illegal. If the moratorium went forward, they threatened, Parliament could block the program's entire budget. The threat sent negotiators back to work. A new proposal from representatives of Parliament and the Council of Ministers is expected before the end of the month. —G.V.

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