Human cloning and international governance


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International Society for Stem Cell Research (ISSCR)

Founded 6 years ago

Today

>2600 members representing 47 nations
Mission Statement

The International Society for Stem Cell Research is an independent, nonprofit organization established to promote and foster the exchange and dissemination of information and ideas relating to stem cells, to encourage the general field of research involving stem cells and to promote professional and public education in all areas of stem cell research and application.

Updated: October 2, 2003
Guidelines for the Conduct of Human Embryonic Stem Cell Research

Version 1: December 21, 2006

The ISSCR Guidelines for Human Embryonic Stem Cell Research

The International Society for Stem Cell Research (ISSCR) Guidelines for Human Embryonic Stem Cell Research provide a framework to ensure that research on human embryonic stem cells (hESCs) is conducted in a manner that is ethically sound and scientifically rigorous. The guidelines are designed to address ethical, legal, and regulatory issues associated with hESC research. They are intended to be flexible and adaptable to the evolving landscape of stem cell research. The guidelines are a collaborative effort involving experts from around the world and are regularly updated to reflect new developments and consensus on ethical and scientific best practices.
6) Statement on reproductive cloning

6.1) Human reproductive cloning is defined as the act of seeking to establish either a pregnancy or the birth of a child by gestating or transferring into a uterus human embryos that have been derived in vitro by nuclear transfer or nuclear reprogramming. Given current scientific and medical safety concerns, attempts at human reproductive cloning should be prohibited.
1. In August 2001 the Permanent Missions of France and Germany requested the Secretary-General of the United Nations to include an additional item on the agenda of the 56th Session of the General Assembly entitled "International Convention against the Reproductive Cloning of Human Beings". After years of debates, instead of a convention, a legally non-binding United Nations Declaration on Human Cloning was adopted on 8 March 2005. Three years later, is there any scientific, social or political change that would justify a new initiative at the international level?

2. The United Nations University Institute of Advanced Studies report entitled *Is Human Reproductive Cloning Inevitable: Future Options for UN Governance* states that "international regulation is a necessity in this area..." and offers three possible options:

   a. the International Bioethics Committee of UNESCO (IBC) takes up the issue of reproductive and research cloning, in the context of resolution A/RES/59/280 and also in the context of the Universal Declaration on Bioethics and Human Rights, adopted by the General Conference of UNESCO on 19 October 2005;

   b. the sixth committee of the General Assembly takes up the issue of customary international law on cloning;

   c. dissemination, discussion and debate on cloning issues at the international level, so that all countries including the developing and least developed countries can participate and put forward their concerns regarding this new technology.

Would any of these actions be realistic in terms of different cultural, religious and social backgrounds of UN Member States and their interests in developing medical research towards treatment of numerous incurable diseases?
3. The same UNU document describes the following options available for regulation of cloning:
   a) total ban on all cloning research
   b) ban on reproductive cloning
   c) ban on reproductive cloning and allow research cloning
   d) ban reproductive cloning, allow research cloning for 10 years
   e) place a moratorium on all cloning research.

For further actions within the United Nations system, what options could be feasible and serve the interests of Member States in the best possible way?

4. The terms and definitions we use can themselves start leading the discussion and build boundaries. Do the words “reproductive cloning” and “therapeutic cloning” introduced into bioethical debates several years ago still adequately describe the technical procedures scientists use (and are potentially able to use) today?
Pluripotent cell isolation for regenerative medicine
Christopher Lengner and Rudolf Jaenisch

Pluripotent cells offer great promise to the future of regenerative medicine and tissue engineering. Nuclear transfer, direct reprogramming and cell fusion can be used to experimentally induce pluripotency in somatic cells. To date, no naturally occurring pluripotent cell has been identified in the mammalian soma, and cells with pluripotent potential in the early embryo or germ lineage are difficult to isolated from patients. This makes methods of experimentally induced pluripotency in readily available somatic cells (such as skin biopsies) invaluable for the generation of patient-specific stem cells.
Our scientific opinion is that research on stem cells of all types should be pursued with the goals of reducing human suffering and better understanding human physiology.
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ISSCR Statement on New Advances in Human Pluripotent Stem Cell Research

New studies have been published in leading peer-reviewed scientific journals, demonstrating for the first time that human skin cells can be transformed into embryonic stem cell-like cells. The technology used to create these cells, induced pluripotent stem cells or IPS cells, holds great promise for creating patient- and disease-specific pluripotent stem cells for both research purposes and longer-term possible clinical use.

The ISSCR Ethics and Public Policy Committee, along with the ISSCR leadership support IPS cell research, as we do the many other paths in stem cell research being blazed by the members of the organization. We note that scientific advances cannot eliminate all ethical controversy, but for those who believe it is unethical to destroy human preimplantation embryos, finding other paths toward pluripotency is a positive move forward.

We know that the scientists that did the research have considered the challenges ahead—including the need to understand how to make IPS cells safe for potential clinical use. The process uses retroviruses to insert genes into somatic cells, and in some cases genes that can cause cancer. Furthermore, the use of viruses to transport the reprogramming genes into the adult human cells causes mutations that predispose these cells to cancer, a technical problem that will have to be solved before the IPS cells can be used clinically. The technology does, however, immediately offer a valuable research tool.

It is premature to suggest that the use of IPS cells can replace the derivation of embryonic stem cells from embryos or by nuclear transfer. We believe that research on human embryonic stem cells, somatic cell nuclear transfer and “adult” or tissue-specific stem cells needs to continue in parallel. All are part of a research effort that seeks to expand our knowledge of how cells function, what fails in the disease process, and how the first stages of human development occur. It is this general knowledge that will ultimately generate safe and effective therapies.

Further reading:
This position is expanded in a recent article in Cell Stem Cell co-authored by the lead researchers who developed this technology in the mouse and Dr Hyun, Chair of the ISSCR Ethics and Public Policy: