SIU CARBONDALE
SOUTHERN ILLINOIS UNIVERSITY
OFFICE OF SPONSORED PROJECTS ADMINISTRATION

SIUC Policy and Procedures Governing Stem Cell Research

Section 1: Introduction and Policy

The use of stem cells in biomedical and related research can be controversial, and must be conducted with the highest ethical and scientific standards. The policy described here is intended to establish such standards, in line with existing policies and oversight committees, in order to protect the reputation of SIUC and to facilitate collaborations between researchers across institutions.

Federal regulations governing human embryonic stem cell (hESC) research lack specificity, and in response the National Academies formulated a set of guidelines for the responsible conduct of such research. The formation of institutional oversight committees, usually called Stem Cell/Embryonic Stem Cell Research Oversight committees (SCROs or ESCROs), is included within these guidelines.

These oversight committees exist to protect both the public interest and the progress of biomedical stem cell research. Their ethical mandate is to ensure that appropriate respect is given to the value of human life and to different points of view about the basis of this value. They do so in part by evaluating risks to the value of human life and dignity against possible benefits to human health and well-being. The goal is to ensure that only well-justified stem cell research is approved and that inappropriate research is not conducted.

Human stem cell research in Illinois is authorized and funded by means of State of Illinois Executive Order no. 2005-6 signed by Governor Rod Blagojevich and filed with the Secretary of State on July 12, 2005, which created the Illinois Regenerative Medicine Institute (IMRI).

All research-related uses and derivations of human stem cells of any type on the SIUC campus must be approved by the SIUC Stem Cell Research Oversight (SCRO) Committee and are governed by the provisions of this policy.

Review and approval by the SCRO Committee is in addition to and is not a replacement for approval by or adherence to other University policies, federal regulations, and state and local laws governing research. Other policies that need to be considered include, but are not limited to, reviews by the Institutional/Laboratory Animal Care and Use Committee (hereafter IACUC/LACUC), the Institutional Review Board (Human Subjects Committee; hereafter IRB); the Institutional Biosafety Committee; federal HIPAA privacy standards; etc. See section IV-A of this policy.

The SCRO Committee is based on the Carbondale campus of SIUC.

Section 2: SCRO Committee Scope of Review

Effective January 1, 2007, the SCRO Committee must review proposals for any research to be undertaken at SIUC involving the **derivation or use of human stem cells**—whether adult, embryonic (to include the derivation of hESCs from human embryos/blastocysts, however they were created), umbilical, placental, or fetal. The Committee must approve the proposal before the research can begin.

Effective January 1, 2007, and until such time as a full SCRO Committee is constituted, stem cell research at SIUC will be reviewed by a smaller "Interim SCRO Committee" convened by the Vice Chancellor for Research and Graduate Dean.

The SCRO Committee shall make policy recommendations and provide oversight of all ethical issues The SCRO Committee—and, until the Committee is constituted, the Interim SCRO Committee—is responsible for the following:

1. Providing scientific and ethical review and written approval of research proposals and protocols using human stem cells as required by the State of Illinois' and the Committee's guidelines and policies.
2. Ensuring that inappropriate research is not done and that sensitive research is justified.
3. Developing written scientific, legal, and ethical guidelines for research and guidelines for deriving, storing, distributing, and using human stem cells.
4. Providing oversight over all issues related to the procurement and use of human embryonic stem cell (hESC) lines.
5. Developing guidelines for SIUC with respect to research involving hESC lines and their derivatives consistent with Illinois Executive Order no. 2005-6.
6. Receiving and reviewing documentation of compliance of all in-house human stem cell research with applicable regulatory requirements and SIUC policies, including guidelines to be developed with respect to research involving hESC lines.
7. Reviewing and, if appropriate, approving in writing any proposals to generate additional hESC lines.
8. Reviewing and, if appropriate, approving in writing research that takes human stem cells from excess blastocysts at in-vitro fertilization clinics, blastocysts created expressly for research, or blastocysts created by nuclear transfer.
9. Ensuring documentation of the provenance of human stem cell lines, including evidence of IRB review and approval of the procurement process as appropriate.

10. Reviewing cases of collaborative research with investigators at other institutions to determine if procedures prescribed by their institutions afford protections equivalent to U.S., Illinois, or SIUC guidelines, or may be substituted for one or more of these guidelines.
11. Maintaining registries of all hESC research conducted at SIUC and hESC lines derived or imported by institutional investigators. At a minimum, the registry will include information regarding all of the following, unless the requirement for documentation has been waived:
    a. whether the cells were obtained ethically and with informed consent;
    b. whether the cells have been screened for safety;
    c. copies of informed consent used and medical history of donors; and
    d. the conditions under which the cells are maintained and stored.
12. Determining whether the proposed research must be conducted in a non-federally-financed laboratory environment or whether it is "federally eligible."
13. Facilitating education of investigators involved in hESC research with respect to relevant ethical, legal, and policy issues in hESC research.
14. Monitoring local, state, national, and international ethical, regulatory, and policy discussions and making recommendations to modify SIUC policy as needed.
15. Providing advice on ethical issues related to hESC research as requested by SIUC administrators, oversight committees, or individual investigators.
16. Reviewing each report SIUC researchers submit to the State of Illinois (Ill. Dept. of Health and Family Services/Ill. Dept. of Public Health) to ensure completeness and accuracy.

Section 3: SCRO Committee Membership

Members of the SIUC SCRO Committee shall be appointed by and report to the Vice Chancellor for Research and Graduate Dean (OVCR/GD) through the Associate Vice Chancellor for Research, who also is director of the Office of Sponsored Projects Administration (OSPA). Membership of the Committee will reflect the scientific, medical, and ethical expertise necessary to perform the above responsibilities.

Members will include faculty representatives of SIUC, including the Carbondale campus of the School of Medicine; at least one member of the public; and one representative of the Springfield or Carbondale IRB. SIUC faculty on the committee shall include one or more individuals who are not investigators; one or more individuals who have scientific, legal, and ethical knowledge or expertise in biology, stem cells, molecular biology, or assisted reproduction; and one or more individuals who possess knowledge or expertise in medical ethics, law, philosophy, or theology. Ex officio members of the Committee will include the Associate Vice Chancellor for Research, the OSPA staff member responsible for research compliance committees, and a representative of University Legal Counsel.

Section 4: Procedures for Investigators

1.1 Prior Review by Other Institutional Research Oversight Committees

As noted in section I, the SCRO Committee does not replace or duplicate the oversight of other research review committees (IBC, IACUC/LACUC, IRB) or alter the scope of review of these committees. Protocols that normally require approval by these oversight committees continue to require these approvals. Investigators are responsible for submitting the required documents to the relevant oversight committees.

SCRO has the **final** sign-off on (i.) research projects involving any type of human stem cells, and (ii.) research projects involving transplantation of non-human stem cells into humans. Final approval by SCRO will not be given for such projects until the Committee receives documentation of all required approvals from IBC, IACUC/LACUC, and IRB, as well as a copy of any Materials Transfer Agreement (MTA) for any hESC lines or derivatives.

Sequence of protocol submissions:

1. All projects subject to SCRO review that will involve recombinant DNA or hazardous biomaterials must first be reviewed by the relevant Biosafety Committee on the Carbondale or Springfield campus.

2. If non-human animals are involved in any part of the research project, the project must next be reviewed by the IACUC (Carbondale campus) or LACUC (Springfield campus).

3. All projects, whether on the Carbondale or Springfield campus, must next be reviewed by the Springfield Committee for Research Involving Human Subjects. The Springfield IRB will review and approve stem cell research protocols for:

    - Informed consent for the donation of human embryos, gametes, or somatic cells from human subjects to SIUC researchers.
    - Receiving and coding for human biological materials with personal donor identifiers.
    - Implanting stem cells into human subjects.
4. SCRO Committee review: Because oversight issues of the IRB and the SCRO Committee are intertwined, it is recommended that the IRB and SCRO reviews occur in parallel. To facilitate and expedite the review process, investigators should submit a copy of their IRB application to the SCRO along with their SCRO application.

1.2 Collaborations with Researchers at Other Institutions

If any component of the research project is conducted at an institution other than SIUC, SCRO must receive documentation that the relevant approvals (Biosafety, Animal Care, and/or Human Subjects) have been obtained at the institution where the research is conducted. Investigators should identify all collaborating sites on the SCRO Application Form. The application should clearly indicate which aspects of the research will occur at each site. Final approval of the project will not be given by SCRO until it receives documentation of all required approvals.

1.3 Transfer of Materials for Stem Cell Research

1. Transfer of non-human animal cells or tissues to SIUC researchers

Investigators whose stem cell project will use non-human animal tissues or cells supplied from another researcher or institution should provide the SCRO with documentation that these materials were obtained with IACUC oversight at the relevant institution.

2. Transfer of already-donated human somatic cells, gametes, or nonembryonic stem cells to SIUC researchers

Investigators who plan to use already-donated human somatic cells, human gametes, or nonembryonic human stem cells must provide the SCRO with documentation that these materials were obtained with IRB oversight at the relevant institution where the donation occurred, and must provide documentation of the informed consent process. The informed consent process must be consistent with the National Academies guidelines, the regulations of the State of Illinois, and the standards of the SCRO and IRB.

Payment for the purchase of stem cells and stem lines for the purpose of research shall be limited to reasonable payment for removal, processing, disposal, preservation, quality control, storage, transplantation, implantation, and legal transaction and other administrative costs associated with the provision of the stem cells, and shall specifically include any required payments for medical or scientific technologies, products and processes, and for royalties, patents, licensing fees, and other costs for intellectual property.

3. Transfer of hESC lines to SIUC Investigators

Investigators who plan to use already-derived hESC lines that have not been pre-approved by the SCRO Committee (see next section) must provide documentation of their provenance and their ethical derivation. This documentation includes:

- Evidence of IRB approval at the relevant institution.
- Documentation of the informed consent process in sufficient detail to allow for evaluation of conformity with state regulations, National Academies guidelines, and standards of the SCRO Committee and IRB.
- A copy of the MTA (as soon as it is available).

4. Pre-approved hESC lines

The SCRO Committee has approved the following pre-existing anonymous hESC lines for use by SIUC researchers. Investigators should attach a copy of the relevant MTA(s) with their protocol application or forward a copy of the MTA to the SCRO Committee as soon as it is available.

- WiCell lines: H1, H7, H9, H13, and H14.
- ESI lines: hESC3, hESC4, and hESC5.
- HUES lines # 1-17 from the Melton Laboratory at Harvard University.

Section 5: SCRO Committee Review Process

The SCRO Committee will review all research activities in a project, including projects spanning several years. A protocol application will not be approved if any one of its component activities is prohibited at the time of review.

The SCRO Committee Chair or his/her designee will review the research application and assign the proposal to one of the five categories described below. The Chair will notify the researcher of the final result of the review process.

Category 1. Research that is permissible after administrative review by the SCRO Committee Chair or his/her designee:

- Research involving *in vitro* use of human adult stem cells or human stem cells derived from fetal tissue, placental tissue, or cord blood.

Category 2. Research that is permissible after approval through an expedited review which is conducted by two members of the SCRO Committee designated by the SCRO Chair and who report their decision to the SCRO Committee. The category includes but is not limited to the following activities:

- Research using pre-existing anonymous or coded hESC lines or their derivatives *in vitro* that does not involve the creation of embryos from gametes derived from hES cells.

Category 3. Research that is permissible after approval through a full Committee review. This category includes but is not limited to the following activities:

- Research introducing human adult stem cells or human stem cells derived from human fetal tissue, placental tissue, or cord blood into non-human animals at any stage of the animal's development.
- Research introducing hES cells or their derivatives into non-human animals at any stage of the animal's development.
- Research in which the identity of the human donor of embryos, gametes, or somatic cells for hESC research might become known to the investigator.
- Research to derive hESC lines from embryos originally created for reproductive purposes and which are no longer required for such purposes. Appropriate IRB approval must be obtained for informed consent regarding embryo donation, and the value of the proposed research must be fully supported.

Category 4. Research requiring more stringent scientific and ethical review by the full Committee; may require external review. The ethically sensitive nature of research activities in this category requires a particularly compelling case to demonstrate that there is no less invasive or less ethically problematic alternative and that this research has distinctive promise. The scientific validity and ethical appropriateness of a research strategy may alter as the field advances, either increasing or decreasing. Therefore research activities in this category may require evaluation periodically to determine their scientific promise and ethical appropriateness relative to the current state of stem cell science. In no case shall any embryo or embryo-like entity be permitted to develop for more than 14 days or past the point of primitive streak development, whichever occurs first. This category includes but is not limited to the following activities:

- Creation of human embryos for research purposes, including those created from gametes derived from hESC lines. Requires IRB approval for any gamete donation.
- Parthenogenesis or androgenesis to generate human embryo-like entities.
- Human somatic cell nuclear transfer (SCNT) into enucleated non-human oocytes.
- Human somatic cell nuclear transfer (SCNT) into enucleated human oocytes.
- Requires written procedures and practices to protect human oocyte donors.
- Requires refined SCNT techniques that reduce the quantity of required oocytes.
- Requires stringent written policies and practices to ensure that derived embryos are used only for the intended research purpose.

Category 5. Research that is prohibited at this time. Human stem cell research prohibited under the National Academies guidelines includes research that involves:

- Introduction of hESC cells into non-human primate blastocysts or of any type of embryonic stem cells into human blastocysts.
- Breeding of an animal into which hESC cells have been introduced at any stage of development.
- Implantation into any animal or human of any intact human embryo or embryo-like entity created by nuclear transfer.
- Development of any human embryo or embryo-like entity *in vitro* for longer than 14 days or past the formation of the primitive streak, whichever occurs first.

Illinois Executive Order no. 2005-6, which established IRMI funding and guidelines for stem cell research in Illinois, states that no funds authorized or made available under this program shall be used for:

- Research involving the reproductive cloning of a human being;
- Research involving fetuses from induced abortions;
- Research involving creation of embryos through the combination of gametes solely for the purpose of research;
- Research for sectarian purposes;
- Research outside of the state of Illinois; or
- Use of purchased stem cells beyond the cost of reasonable payment.

No funds shall be awarded to any person who knowingly, for valuable consideration, purchases or sells embryonic or cadaveric fetal tissue for research purposes. See Executive Order no. 2005-6 and its amendment, Executive Order no. 2006-3.

Section 6: SCRO Committee Approvals and Renewals

- Committee approval will be valid for one year from the date of approval, but the Committee reserves the right to review research more frequently.
- Any changes in research activities or additions of human stem cell lines must be approved prior to implementation.
- An SCRO renewal form should be submitted to the Committee 60 days prior to the date when approval expires.

This policy is adapted from that of the University of Connecticut, by permission (12/20/06), with modifications specifically for SIUC. See http://www.escro.uconn.edu.