

Local View: Stem cell research ban would hurt university

By Sanford M. Goodman | Posted: Saturday, November 14, 2009 11:55 pm

The future of the University of Nebraska as a dynamic biomedical research university is at stake with the Board of Regents' consideration of university research policy on November 20.

Regents' action to effectively ban human embryonic stem cell research, going beyond consensus state policy written into law just last year, is unwarranted and would be entirely unprecedented, representing an egregious violation of the board's own by-laws on freedom of inquiry.

"The university serves the people of Nebraska and the common good through learning, teaching, extension work, research, scholarship and public service," they state. "Fulfillment of these functions requires the preservation of intellectual freedoms of teaching, expression, research and debate. ... A teacher or researcher is entitled to freedom in research ... limited only by the precepts of scholarship and faithful performance of academic obligations."

The precepts of scholarship demand that such inquiry be conducted responsibly and ethically. Two factors are key in evaluating human embryonic stem cell research within that framework - the likelihood that the study of human embryonic stem cells will result in significant medical advances to alleviate suffering and the lack of alternatives to human embryonic stem cells.

The international medical research enterprise is both open and highly competitive. Ideas and hypotheses are subject to open discussion and rigorous evaluation.

The handful of medical researchers who assert that the use of human embryonic stem cells is not scientifically justified has had every opportunity to make their case before scientific conferences, grant funding boards and other scientific bodies. Clearly they have not presented a scientifically compelling case in this regard, as evidenced by the unanimous endorsement of human embryonic stem cells use by all those scientific organizations that have expressed a view on the subject, including the National Academies of Science.

The scientific consensus is that study of human embryonic stem cells will provide key information to advance the fields of cellular biology, regenerative medicine and embryonic development, and provide new mechanisms for drug screening and the creation of new models of human disease in the search for new treatments and cures.

There is a similar consensus that there are no alternatives to human embryonic stem cells in critical applications. Individual researchers who work with all stem cell types determine which types appear most promising for the problems they are trying to solve. Some pursue adult stem cell strategies and others embryonic, while others are looking to the relatively new induced pluripotent stem cells derived from adult cells.

Despite early enthusiasm expressed in the popular press, subsequent study has shown that much work needs to be done to identify differences between induced pluripotent stem cells and human embryonic stem cells, or confirm that they are identical. The two cell types must be compared to resolve these questions.

A key aspect of this work is the development of techniques to culture, induce differentiation and stabilize human embryonic stem cells as a means to do the same for induced pluripotent stem cells.

Despite the promise of alleviating human suffering through such research, many people object to the use of human embryonic stem cells because they are extracted from days old embryos that are destroyed in the process. But they do not have exclusive claim to the moral or ethical high ground.

Current University of Nebraska policy requires that only human embryonic stem cells eligible for federal funding may be used in the university system. Newly established human embryonic stem cells guidelines from the National Institutes of Health continue to limit federal funding to human embryonic stem cell lines derived only from donated embryos from in vitro fertility clinics that would otherwise be discarded.

The Nebraska Legislature anticipated these new guidelines when it enacted Legislative Bill 606 by a 48-0 vote last year. As the bill's chief negotiator described it in a recent letter, LB606 allows continued research on federally approved embryonic stem cell lines but prohibits the use of state funds or state facilities to destroy human embryos for the purposes of research or to create one via somatic cell nuclear transfer.

The NIH is in the process of evaluating whether human embryonic stem cell lines meet the new, rigorous ethics standards. Only one well-studied Bush line has been submitted for approval. Previous analyses suggest this may be the only one approved under the new standards.

Restricting research at the university to the very few eligible, "Version 1.0" Bush lines would constitute an effective ban on human embryonic stem cell use since they have limited usefulness. The board might as well hang out a sign that says "innovation not welcome here," noted Dr. Lawrence S. B. Goldstein, head of the stem cell program at the University of California at San Diego.

"To impose any strait jacket upon the intellectual leaders in our colleges and universities would imperil the future of our Nation," Chief Justice Earl Warren wrote in a 1957 Supreme Court opinion. "Teachers and students must always remain free to inquire, to study and to evaluate, to gain new maturity and understanding; otherwise our civilization will stagnate and die."

The Board of Regents should not dismiss lightly the negative effect on the University of Nebraska if they adopt the proposed ban on human embryonic stem cell use in highly regulated, ethical research.

Sanford M. Goodman is president of the Nebraska Coalition for Lifesaving Cures.