

## **SUE AND BILL GROSS STEM CELL RESEARCH CENTER**

### **FUNDING FOR STEM CELL RESEARCH**

Stem cells give rise to all the cells in the human body and may hold the key to finding new treatments and cures for many diseases, including Parkinson's, Alzheimer's, heart disease, cancer, diabetes, multiple sclerosis, spinal cord injury, and vision and hearing impairments. Human embryonic stem cells are among the most promising types of stem cells, but, despite their tremendous potential, Federal funds for this aspect of stem cell research have been limited. As a result of this limitation, citizens groups in states like California have constructed safe havens for responsible investigations across the full spectrum of stem cell biology.

#### **FEDERAL FUNDING**

In August 2001, Federal funding was restricted to a small number of "approved" human embryonic stem cell cultures. The list of approved stem cells was initially thought to include 78 different cultures, but this number soon dropped to about a dozen because of technical and legal barriers. Unfortunately, Federally-approved stem cells are difficult to grow in the laboratory and have slowed the pace of research.

Scientists have since used improved techniques to expand the number of human embryonic stem cell cultures available to the global research community. However, scientific investigations utilizing these post-2001 cells cannot receive Federal support, and any scientist conducting both approved and unapproved stem cell research must physically separate unapproved work from the rest of his/her laboratory.

#### **Limited Federal Funding of Human Embryonic Stem Cell Research**

- *Only a few cell lines are "eligible" for Federal funds*
- *Cells already cultured for long periods*
- *Intellectual property held by developers*
- *Cells have a narrow range of genetic backgrounds*
- *Cells may be unsuitable for human use*
- *Research institutions must separate labs using federal funds from projects using "ineligible" cells*

#### **Why can't scientists only use the embryonic stem cells approved for Federal funding?**

In addition to their halting growth, Federally-approved human embryonic stem cells may be contaminated with animal-derived material, leading many scientists to believe that these cells are not amenable to the development of human therapies. This is not the case with some human embryonic stem cells generated after 2001. Plus, a larger number of stem cell cultures will be needed in order to conduct stem cell research that reflects the genetic backgrounds of all Americans.

## **How much Federal funding has gone towards human embryonic stem cell research and other types of stem cell research?**

From 2001 to 2004, the Federal government allocated roughly \$25 million per year for human embryonic stem cell research. During this same period, about \$180 million in Federal funds went to other kinds of human stem cell research (such as research on adult stem cells). These figures stand in contrast to the total budget of the National Institutes of Health, which topped \$27 billion in 2004.

## **Are there restrictions on Federal funding for adult stem cell research?**

No. Human embryonic stem cell research is the only aspect of stem cell biology subject to Federal funding restrictions.

## **STATE FUNDING**

Proposition 71, approved on November 2, 2004, by a majority of voters in Orange County and across California, called for the establishment of a new state agency to stimulate research across the full spectrum of stem cell biology, including embryonic stem cell research. Proposition 71 was endorsed by the California Medical Association; a statewide coalition of over 150 patient, scientific, business, religious and women's groups; and 46 Nobel Prize-winning scientists.

## **How much funding is California providing for stem cell research?**

The passage of Proposition 71 led to the creation of the California Institute for Regenerative Medicine (CIRM), which will oversee the distribution of \$3 billion for stem cell research in the state. CIRM, governed by an Independent Citizen's Oversight Committee, plans to allocate an average of \$295 million per year over a 10 year funding period. Funds will be available for the direct and indirect costs of research, purchasing needed scientific equipment, and for the strategic construction of stem cell research facilities in California.

## **FUNDING SOURCES FOR UCI**

### **What are some of UCI's current sources of funding for stem cell research?**

Geron Corp., UC Star Biotech Program, Families of Spinal Muscular Atrophy, National Institutes of Health and Paralyzed Veterans of America are some of the sponsors of stem cell research at UCI. In addition, the California Institute for Regenerative Medicine (CIRM) awarded UCI a 3-year, \$2 million grant to begin training the next generation of stem cell pioneers. The campus also plans to submit a proposal to CIRM for the construction of a dedicated building for the Sue and Bill Gross Stem Cell Research Center. If funding is approved, the Sue and Bill Gross Center building will be located within the Biomedical Research Center in the College of Health Sciences complex.

### **Other States Pursuing Stem Cell Research**

*Maryland* lawmakers agreed to fund as much as \$15 million in stem cell grants in 2006.

*Connecticut* established a 10-year, \$100 million Stem Cell Research Grants-in-Aid Program for researchers in that state. *New Jersey* has formally authorized human embryonic stem cell research with a funding package under discussion. A *Missouri* patient coalition proposed a referendum to protect stem cell research and therapies at state institutions. *Wisconsin* proposed a \$750 million investment in stem cell research. *Massachusetts* enacted legislation authorizing human embryonic stem cell research. *Illinois's* governor recently allocated \$10 million in state funds for stem cell research. A citizens' group in *New York* has proposed funding human stem cell research at its major institutions. *Pennsylvania* is planning to remove a prohibition on state funds for stem cell research.