



**Testimony of the
Biotechnology Industry Organization (BIO)
Before the Maryland Senate Education, Health and
Environmental Affairs Committee**

**Regarding Senate Bill 751
The Maryland Stem Cell Research Act of 2005
March 2, 2005**

Madam Chair and members for the committee, thank you for the opportunity to present testimony in support of Senate Bill 751, the Maryland Stem Cell Research Act of 2005.

BIO represents more than 1,100 biotechnology companies, academic institutions, state biotechnology centers and related organizations in all 50 U.S. states and 33 other nations. BIO members are involved in the research and development of health care, agriculture, industrial and environmental biotechnology products. In Maryland, we work closely with the Technology Council of Maryland to represent the 300 biotechnology and life science companies and nearly 20,000 employees working to develop cures for patients suffering from diseases such as cancer, diabetes, Parkinson's and Alzheimer's diseases as well as many others.

Medical research has taken quantum leaps in the past decade. Scientists are identifying and developing innovative cures to deadly and debilitating diseases. According to the National Institutes of Health and the National Academies of Science, human embryonic stem (HES) cells have shown incredible promise toward developing breakthrough treatments for a variety of intractable diseases including various cancers, kidney disease, diabetes, hepatitis, multiple sclerosis, Parkinson's Disease, Alzheimer's Disease and many other diseases. In fact, recent developments have demonstrated that

human embryonic stem cells can be used to create insulin-producing cells that might help **cure** type-1 diabetes.

Senate Bill 751 will spur this research through a specific authorization and much needed funding. It will also help facilitate the voluntary donation of excess fertilized eggs for stem cell research. In addition, the bill also protects the right of scientists to use somatic cell nuclear transfer technology for the derivation of HES cells. This innovative process may some day improve treatments, minimizing the risk of rejection of new cells and tissue because it uses an individual's own cells to treat specific diseases.

BIO is committed to the socially responsible use of biotechnology to save or improve lives. We recognize that there are moral and ethical concerns surrounding human embryonic research. This bill strikes an appropriate balance by encouraging potentially life saving research to advance under a carefully constructed regulatory scheme. Senate Bill 751 will ensure that researchers in Maryland can employ this valuable technology.

Stem cells are unique in that they can become any cell in the body. Working with these cells, scientists can harness “undifferentiated” human stem cells and direct them to become a variety of specialized cells. Once enough specialized cells have been developed they can then be used to repair spinal cord injuries; regenerate damaged brain cells for people suffering from Parkinson’s or Alzheimer’s disease; regenerate muscle or organ tissue as well as skin cells to treat burn victims. The benefit of this type of therapeutic cloning may someday allow doctors to treat patients suffering from these maladies with cells that are the genetic duplicates of the patients’ own damaged cells. This could significantly reduce rejection issues common with donor cells or organ transplants.

We are not alone in our support for preserving all forms of stem cell research. The National Academy of Sciences (NAS) in a recent report concluded:

“The scientific and medical considerations that justify a ban on human reproductive cloning at this time are not applicable to nuclear transplantation to produce stem cells. Because of the considerable potential for developing new medical therapies to treat life-threatening diseases and advancing biomedical knowledge, the panel supported the conclusion of a previous National Academies’ report—*Stem Cells and the Future of Regenerative*

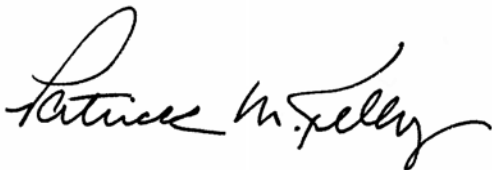
Medicine—that recommends that biomedical research using nuclear transplantation to produce stem cells be permitted.”

Maryland's position as a center of excellence for biotechnology research is beyond the reach of many states. However, there are states that are aggressively pursuing legislation to attract biotechnology companies. California, the state with the largest biotechnology industry presence in the country, recognizes the promise of this technology. The state became the first in the nation to create a safe harbor for all forms of stem cell research, and with the passage for Proposition 71, the state will allocate \$3 billion to stem cell research over the next 10 years. Nearly a dozen states are now considering legislation to either create safe harbors and/or allocate funding for stem cell research. The passage of Senate Bill 751 will further cement the state's reputation as a preeminent leader in biomedicine and biotechnology.

Maryland has always been a staunch supporter of the advancement of biomedical research and promoting industry growth. Promoting the very promising area of stem cell research is imperative if the state is to continue to hold its competitive advantage over other states in the country. We strongly urge you to give a favorable report to Senate Bill 751.

Again, thank you for the opportunity to submit testimony today. Please feel free to contact me if you have any questions or need additional information.

Respectfully Submitted,

A handwritten signature in black ink that reads "Patrick M. Kelly". The signature is written in a cursive, flowing style.

Patrick M. Kelly
Vice President, State Government Relations
Biotechnology Industry Organization