

March 11, 2008

Hon. Edmund G. Brown Jr.
Attorney General
1300 I Street, 17th Floor
Sacramento, California 95814

Attention: Ms. Krystal Paris
Initiative Coordinator

Dear Attorney General Brown:

Pursuant to Elections Code Section 9005, we have reviewed the proposed initiative regarding human cloning (A.G. File No. 08-0005). This measure would amend the State Constitution and state law to ban human cloning, as defined, and certain related activities.

Background

Types of Cloning and Stem Cell Research Activities. Scientific activities resulting in a form of cloning include both “reproductive cloning” and research-oriented or “therapeutic cloning.” Human reproductive cloning uses genetic procedures to attempt to create a human being that would be genetically identical to another person. Therapeutic cloning uses genetic procedures to create certain human cells, known as embryonic stem cells, for use in various types of genetic research.

A stem cell is a type of cell found in both animals and humans that has the potential to develop into many different types of specialized cells in the body. Scientists have conducted research on stem cells to better understand how animals and humans develop and how healthy cells replace damaged cells. This research may lead to new medical treatments for diseases.

Current State Laws Regarding Cloning. The State Constitution and current state law include various provisions governing cloning-related activities. Proposition 71, enacted by the voters in 2004, amended the State Constitution to establish a right to conduct stem cell research, which could be interpreted to include therapeutic cloning. Other state laws ban human reproductive cloning and the purchase or sale of certain genetic or biological material for that purpose. State law also establishes certain civil penalties for those found to have violated the ban.

Funding for Stem Cell Research. Proposition 71 authorized the sale of a total of \$3 billion in state bonds over a multiyear period to fund stem cell research, research facilities, and related activities. The proposition included a constitutional provision banning the use of these funds for human reproductive cloning. Proposition 71 also provided that the state could benefit financially from any patents, royalties, or licenses resulting from research activities funded by the bond proceeds. At the time this analysis was prepared, grants totaling \$260 million had been awarded, and the state had sold \$250 million in bonds to fund Proposition 71 activities.

The University of California (UC) is engaged in stem cell research, but detailed information regarding the sources and amounts of funding for this research was unavailable at the time this analysis was prepared. However, available information from recent years suggests that total funds spent by the UC on stem cell research from non-Proposition 71 sources ranges between a few million dollars and tens of millions of dollars annually. To the extent that the UC receives Proposition 71 research funding, it can also use these funds to leverage matching funding from non-state sources for the same purposes, thereby increasing the overall amount of funding for stem cell research.

Proposal

This measure would amend the State Constitution to make it unlawful to perform or attempt to perform human cloning. This measure would also make it unlawful to buy, sell, transfer or receive any *product* of human cloning for any purpose. Furthermore, this measure would make it unlawful to buy, sell, transfer, or receive any embryo, fetus, or specified types of human cells for the *purpose* of human cloning. The measure would also amend the State Constitution and state law to define human cloning and certain other terms in a manner that would likely result in *both* reproductive cloning *and* therapeutic cloning being banned.

In addition to amending the State Constitution, the measure would also amend state law to:

- Make human cloning a crime.
- Establish or increase various criminal, civil, and professional penalties for specified violations of the ban.
- Provide that scientific research not specifically prohibited, including fertility treatments and genetic techniques that produce cells other than human embryos, would not be restricted.

Fiscal Effects

Reduced Bond Costs. This measure would likely make illegal an unknown but potentially significant portion of the research that would otherwise be funded by Proposition 71 bond proceeds. This is because some research activities that are currently permitted under Proposition 71 and other California law would likely be regarded as cloning and banned under this measure. To the extent that such research were illegal in California, the state may not sell some unknown portion of the bonds, resulting in potential savings annually to the state of up to the low hundreds of millions of dollars for principal and interest costs that would otherwise likely be incurred over the next few decades.

Revenue Resulting From Research Bonds. Reduced Proposition 71 funding for embryonic research could also lead to lower levels of research funding for the UC and potentially reduced revenue to the state and UC from possible patents, licenses, or royalties that may otherwise have resulted from the research. The amount of such lower funding or revenue is unknown.

Possible Effect on Certain Medical Treatments. Depending on the interpretation of the measure's language by the courts, this measure could also prohibit medical treatments for certain types of cancer or other diseases that make use of stem cell replication procedures. This could result in unknown fiscal effects on the state and local governments.

Some Criminal Justice Costs Possible. This measure would establish state prison terms for certain violations of the ban. If such violations did occur and were prosecuted, some new costs related to court proceedings and incarceration could result for the state and local governments. We estimate that any such costs would be minor.

Additional Effects Possible. Reduced Proposition 71 funding could result in lost state and local revenue gains and cost savings, as follows. If research funded by Proposition 71 were to result in economic and other benefits that would not otherwise have occurred, it could produce unknown indirect state and local revenue gains and cost savings. Such effects could result, for example, if the added research activity and associated investments due to Proposition 71 funding generate net gains in jobs and taxable income, or if funded projects reduce the costs of health care to government employees and recipients of state services. The likelihood and magnitude of these and other potential indirect fiscal effects are unknown.

Summary

The initiative would have the following major fiscal effects:

- Potential state savings up to the low hundreds of millions of dollars annually over the next few decades resulting from reduced principal and interest costs for bonds to fund embryonic research.
- Unknown potential loss of state and local revenue gains and cost savings due to reduced research funding for embryonic research.

Sincerely,

Elizabeth G. Hill
Legislative Analyst

Michael C. Genest
Director of Finance