

April 15, 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 embryonic research (A.G. File No. 08-0011). This measure would amend the State Constitution and state law to establish a state-funded umbilical cord blood bank and adult stem cell research center.

Background

Stem Cell 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 humans develop and how healthy cells replace damaged cells. This research may lead to new medical treatments for diseases. Both embryonic stem cells—derived from embryos—and adult stem cells—obtained from organs and tissues—currently are used in research. One source of stem cells currently being researched is umbilical cord blood.

State Laws Regarding Stem Cell Research. The Constitution and current state statutes include various provisions governing stem cell research activities. Proposition 71, enacted by California voters in 2004, amended the Constitution to establish a right to conduct stem cell research, as defined. Current state law also permits stem cell research, including the generation and use of embryonic stem cells.

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 measure established the California Institute for Regenerative Medicine (“Institute”) and a governing oversight committee to direct stem cell research and to award research grants using the bond proceeds. The measure 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.

University of California Research. The University of California (UC) is engaged in stem cell research, but detailed information regarding the sources and exact 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.

Embryo Donation and Adoption. Current fertility treatment technology creates various circumstances in which embryos may be donated for adoption or research. Prospective parents can choose to adopt an embryo, which is then implanted in the adopting mother's uterus. Also, certain procedures such as *in vitro* fertilization can produce more embryos than needed for the fertility patient's purposes. Private organizations may arrange for the donation or adoption of these or other embryos.

Health care practitioners who provide fertility treatments are required under state law to inform patients about the options for donating (for research or adoption) any embryos that may remain following fertility treatments. Additionally, the state authorized a registry in 2003 for embryos that are anonymously donated for research purposes.

Proposal

This measure would amend the Constitution and state law to establish a state-funded umbilical cord blood bank and adult stem cell research center that would also facilitate the adoption of embryos. We discuss these provisions in greater detail below.

Establishment of New Research and Embryo Adoption Center. The measure would revise the Constitution to:

- Change the Institute's existing mission *from* making grants and loans for embryonic and other stem cell research and research facilities *to* establishing and overseeing a state-funded umbilical cord blood bank and adult stem cell research center ("Center") that would conduct more restricted umbilical cord blood and stem cell research itself.

- Revise the current constitutional right to conduct stem cell research to exclude the generation of certain stem cells from human embryos, human cloning, or certain other genetic procedures.
- Provide that revenues from patent royalties or licenses resulting from stem cell research would be used to manage the Center, to provide pay raises for state and local government workers, and to create jobs.

Revised State Funding and Bond Authority. The measure would repeal the authority established by Proposition 71 for the state to sell up to \$3 billion in general obligation bonds to fund stem cell research. Instead, the measure would require the Legislature to appropriate \$900 million to the Institute from the state General Fund, and would authorize the Legislature to choose whether to issue bonds to provide these funds. The measure would require the \$900 million to be spent as follows:

- Up to \$200 million to acquire land and build the Center
- \$150 million to fund adult stem cell research
- \$100 million to fund umbilical cord research
- \$100 million to fund umbilical cord blood banking
- \$150 million to fund embryonic adoption
- \$200 million to fund Center operating costs

The measure would require minimum funding of \$200 million over the first two years beginning June 1, 2009, and an equal distribution of funding over a twenty-year period following completion of the Center's construction.

Embryonic Adoption Provisions. This measure would repeal the existing authorization for the registry of anonymously donated embryos and the requirements for notification to fertility treatment patients regarding embryo donations for research purposes. The measure would instead establish an embryo adoption program at the Center, along with certain program operating requirements. Among these would be a prohibition on the use of any embryos for research purposes.

Repeal of Existing Stem Cell Oversight Laws. The measure would also amend state statute to repeal stem cell definitions and certain related provisions established by Proposition 71 and the legal authority for the current Institute's oversight committee.

Other Administrative Provisions. The measure would also amend state statute to establish new administrative provisions for the Institute, including:

- Functions and requirements for the board of directors and Center personnel.

- A requirement that all research funded by the Institute be conducted at the Center.
- Annulment of any research grants and business contracts awarded or entered into by the Institute prior to November 5, 2008.
- A requirement that the Center charge “reduced fees” for adoptions, and authority to set adoptive embryo application fees at its discretion.

Fiscal Effects

Reduced Bond Costs. This measure would eliminate the state’s authority to sell \$3 billion in general obligation bonds to fund stem cell research. Notwithstanding this provision, our fiscal estimates assume that the state would not legally be able to nullify its current obligations to pay the principal and interest for the \$250 million of these bonds that have already been sold (and the related grants and contracts). Therefore, we estimate that this measure would generate savings to the state of about \$5.4 billion over the next few decades to pay the principal (\$2.8 billion) and interest (\$2.6 billion) for those bonds that have not yet been sold (\$179 million annually). These savings would be reduced to the extent the state issues additional bonds prior to November 5, 2008.

These savings would be partially offset by the \$900 million that the measure would require the Legislature to appropriate for the Center. We consider it likely that the Legislature would decide to issue bonds to provide the \$900 million, as authorized by the measure. If the \$900 million in bonds authorized by this measure were repaid over a 30-year period at an average interest rate of about 5 percent, the cost to the General Fund would be approximately \$1.8 billion to pay off both the principal (\$900 million) and the interest (\$900 million). The average payment for principal and interest would be \$59 million per year. Thus, net savings to the state for reduced principal and interest costs could total about \$3.6 billion for bond principal and interest payments (\$120 million annually) over the next few decades.

Lower State Revenue Resulting From Lower Research Bond Authority. This measure could lead to lower levels of stem cell research funding for UC and potentially reduced revenue to the state and UC from possible patents, licenses, or royalties that may otherwise have resulted. This is because this measure would: (1) provide a significantly lower level of funding for stem cell research than currently authorized by Proposition 71, (2) limit the types of research that could be funded, and (3) require that all research funded through this measure be conducted at the Center. The amount of such lower research funding or reduced revenue is unknown.

Possible Use of Revenue for Local Governments. The measure could result in different parties benefiting from patent or license revenue than would be the case under current law. This measure provides that these revenues would be used to manage the Center, to increase pay for state and local government workers, or to create jobs, although it does not require any specific allocation among these possible uses. Depending on how any such revenues were allocated, local governments could obtain additional revenue from this measure that they would not obtain under Proposition 71, which does not identify local governments as beneficiaries of any revenue. The magnitude and likelihood of any such revenue is unknown.

Potential State Fee Revenue. The measure would require the Center to charge reduced fees for adoptions and would allow the Center to set adoptive embryo application fees at its discretion. The magnitude and likelihood of any such fee revenue is unknown and contingent upon the actual number of embryo adoptions and the level at which fees would be set.

Additional Effects Possible. Reduced stem cell research funding could result in lost state and local revenue gains and cost savings, as follows. If the higher volume of research funded by Proposition 71 were to result in economic and other benefits that would not otherwise occur, unknown indirect state and local revenue gains and cost savings could result. This would occur, for example, if the added research activity and associated investments due to Proposition 71's higher funding level 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. However, reduced research activity resulting from this measure could have more limited effects of this nature. The likelihood and magnitude of these and other potential indirect fiscal effects are unknown.

Potential Legal Challenges. Provisions of this measure could be challenged in court. Current research grant recipients could challenge the measure's requirement that pre-existing contracts be annulled. Additionally, investors who purchased bonds could challenge this measure's provisions that change the state's use of bond proceeds from the purposes specified in Proposition 71. The fiscal impact of these challenges is unknown and contingent upon the filing of court actions and the outcome of court decisions.

Summary

The initiative would have the following major fiscal effects:

- Potential state savings of about \$120 million annually over the next few decades resulting from reduced principal and interest costs for bonds to fund stem cell research.
- Unknown potential loss of state or local revenue gains and cost savings due to reduced stem cell research funding.
- Unknown gain of state revenues for fees related to embryo adoptions.
- Unknown potential gain of local government revenue due to possible allocation of patent or license revenues to local governments.

Sincerely,

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