DIANNE FEINSTEIN
CALIFORNIA

SELECT COMMITTEE ON INTELLIGENCE - CHAIRMAN
COMMITTEE ON APPROPRIATIONS
COMMITTEE ON THE JUDICIARY
COMMITTEE ON RULES AND ADMINISTRATION

United States Senate
WASHINGTON, DC 20510-0504
http://feinstein.senate.gov

July 14, 2009

Senator Edward M. Kennedy
Chairman
Committee on Health, Education,
Labor and Pensions
United States Senate
Washington, DC 20510

Senator Christopher Dodd
Chairman
Subcommittee on Children and Families
Committee on Health, Education,
Labor and Pensions
Washington, DC 20510

Dear Senator Kennedy and Senator Dodd:

I write regarding the approval pathway for generic biologics contained the Affordable Choices Act currently before the Senate HELP Committee. I urge you to include a data exclusivity period that will provide sufficient incentives for continued innovation in this very important field.

Creating a Food and Drug Administration approval pathway for generic biologics is critical to controlling long-term costs in our health care system, and providing patients with more affordable access to lifesaving biologics. While I strongly support both of these goals, our efforts to bring affordable biosimiliar drugs to the market must not undermine incentives for the development of the next generation of biologics.

I have particular concern about continued innovation in the field of stem cell research. As you know, California is home to the California Institute for Regenerative Medicine (CIRM), a publicly funded state program for stem cell research, including embryonic stem cell research. Since its founding, CIRM has provided 294 grants, totaling more than $761 million in grant funds to California institutions engaged in promising stem cell research.

According to CIRM, it will cost as much as $1.2 billion and take 10 to 15 years to bring stem cell technologies to the market. Additionally, stem cell companies may not have the same available federal resources to bring their products to market as traditional biotechnology research. The Dickey Wicker Amendment, which annually prohibits federal funding for research involving the

creation or destruction of embryos, continues to restrict the use of federal funds for the development of stem cell technology. It will require more private investment to move stem cell based advances through the development pipeline and bring them successfully to the market.

We all worked together to overturn President Bush's 2001 Executive Order that limited the use of federal funding for embryonic stem cell research. Now that President Obama has lifted these restrictions and unleashed American scientists, I believe that we will soon know much more about embryonic stem cells and the ways they can be used to better understand and treat catastrophic diseases, such as Parkinson's, diabetes and spinal cord injuries. Just as we turn the corner in this nascent field, we must be sure that no provisions in health care reform slow or restrict the development of stem cell technology.

I am enclosing a letter from the California Institute of Regenerative Medicine (CIRM) that explains the importance of a sufficient data exclusivity period in any regulatory pathway for the approval of generic biologics. I urge you to give their comments full and fair consideration as you continue your work on health reform legislation.

Thank you for your consideration. I look forward to continue to work with you on improving our Nation's health care system, and creating the proper incentives to bring lifesaving stem cell technology to the millions of Americans awaiting cures.

Best regards,

Dianne Feinstein

DF/kw
Enclosure

Cc:
Bob Klein, Chairman
Alan Trounson, President
Senator Art Torres (Ret.), Vice Chairman, Statutory
Duane Roth, Vice Chairman, Bylaws

CALIFORNIA INSTITUTE FOR REGENERATIVE MEDICINE

July 6, 2009

The Honorable Dianne Feinstein
United States Senate
Hart Senate Office Building, SH-331
Washington, DC 20510-0504

Dear Senator Feinstein:

The California Institute for Regenerative Medicine ("CIRM") urges you to support a biosimilars regulatory approval process which adequately protects innovation in the still nascent field of stem cell research and regenerative medicine.

Congress should establish a data exclusivity period that allows small and emerging companies at the vanguard of this field to recoup the massive investment required. The anticipated development cycle for stem cell technology, typically estimated generally at 10 to 15 years, means that the existing patent regime will not protect innovators and investors in this field. Indeed, the "government granted monopoly" accorded to all patent holders will be exhausted or largely depleted before stem cell products come to market. Thus, stem cell innovators and investors will not be incented to invest the time and money needed to advance this critical new area of medical therapy unless Congress also provides a data exclusivity period lengthy enough to allow these stakeholders to recoup their investments. Without a predictable 12 to 14 year data exclusivity period for stem cell research and development, patient access to this promising technology will be delayed or eliminated and California's biotechnology sector will suffer.

CIRM: Stem cell science and regenerative medicine hold enormous potential for treating chronic diseases and injuries that afflict millions of people worldwide. Recognizing this potential, in 2004, 7 million California citizens (representing a 59% plus majority) voted in favor of the Stem Cell Research and Cures Initiative. That legislation created CIRM and charged it with supporting and advancing "stem cell research and regenerative medicine under the highest ethical and medical standards for the development of cures, therapies and diagnostics..." CIRM is also charged with advancing the biotech industry in California to "world leadership, as an economic engine for California's future." California Stem Cell Research and Cures Initiative, Section 3.

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The State of the Stem Cell Research Market:

a. Nascent and Expensive Technology: The stem cell and regenerative medicine field is in the earliest stages of development. This is nascent technology: the first U.S. Phase I clinical trial involving human embryonic stem cells will begin this year. It involves complicated technology. Biologics are organic molecules with larger (by 100- to 1000-fold) and more complex three dimensional structure than traditional chemical drugs. Current technology does not even allow reliable complete characterization of biologics. (Congressional Research Service Report, 4/13/09, p. 8).

   The complexity involved means that developing a stem cell product and bringing it to market will take significant resources. Developing a stem cell biologic is projected to cost $1.2 billion on average. (Plunkett Research Ltd, "Biotechnology, Drugs, & Genetics Trends," http://www.plunkettresearch.com/Industries/BiotechnologyDrugsGenetics/BiotechnologyDrugsGeneticsTrends/tabid/299/Default.aspx) Though it is possible that some of these products will advance relatively quickly, estimates of the time it will generally take to bring such products to market range from 10 to 15 years.

a. The Role of Small and Emerging Stem Cell Companies: Small and emerging companies are driving stem cell technology forward toward therapeutic application. California has the highest concentration of these companies in the United States and, likely, in the world. Because these companies generally are not publicly traded, few can obtain financing from traditional lenders due to the high risk and lengthy development time frames involved. Government funding for the translational and clinical aspects of this research, from the NIH for example, is largely unavailable. Until very recently, a Presidential Order banned the use of federal funds to support research on all but a few stem cell lines. The Dickey Wicker Amendment continues to prohibit federal support of many of the most promising stem cell lines even now that President Obama has lifted that Presidential Order. As a result, small and emerging stem cell companies must depend on private investment from friends, angels and venture capitalists, making them especially susceptible to negative changes in the investment climate. (Fierce BioTech, April 20, 2009, "Venture Capital Investment Plummets in Q1 2009 to 12 year low..." http://www.fiercebiotech.com/press-releases/venture-capital-investment-plummets-q1-2009-12-year-low-according-moneytree-report)

   Indeed, the prevailing economic crisis has wreaked acute havoc on stem cell companies. Those based in California are particularly challenged. The majority have less than a six month financial cushion. Many companies have been forced

to alter or eliminate research programs in response to funding shortages. (WSJ: "Cash-Poor Biotech Firms Cut Research, Seek Aid", October 25, 2008. http://online.wsj.com/article/SB122523819921178005.html) That response, while prudent from a business perspective, has the obvious adverse effect of slowing or eliminating scientific progress in this critical field of medicine.

Biosimilars Legislation Must Foster Innovation by Stem Cell Scientists:

Several bills pending before Congress would create a pathway for regulatory approval of biosimilars, including stem cell and regenerative medicine biosimilars. These bills seek to create competition for expensive therapeutics (thereby presumably lowering prices to consumers) by accelerating FDA approval of additional market entrants once a pioneer biologic has been declared safe and efficacious. The fundamental mechanism employed by each bill is a data exclusivity period: subsequent market entrants may seek regulatory approval at any time using data which they themselves generated; but they may only rely on data generated by pioneer discoverers after some period of time elapses. Establishing a data exclusivity period incents investment in biologic products. Companies and their investors get a predictable period during which competition comes only from those who have incurred similar research and development costs. That sheltered time allows pioneers to recoup their expenses before facing competition from entities who have taken a "free ride," using the pioneer's data and research. This legislative structure (including data exclusivity periods and references to prior FDA findings of safety and efficacy) is modeled on the Hatch-Waxman legislation covering generic small molecule drugs. (Drug Price Competition and Patent Term Restoration Act of 1984; P.L. 98-417)

CIRM's governing board, the Independent Citizen's Oversight Committee ("ICOC"), studied the various legislative proposals relating to biosimilars. After careful consideration, the ICOC voted to endorse H.R. 1548, the "Pathway for Biosimilars Act of 2009" introduced by Representative Anna Eshoo. The exclusivity period proposed by H.R. 1548 is between 12 and 14 years. Like the 90 co-sponsors of this bill, the ICOC concluded that an exclusivity period of about that duration is needed to promote necessary investment (both in terms of capital and other resources for effective biologic innovation). The ICOC recognized that existing intellectual property laws would not adequately foster investment in this nascent area of research because the development time line is protracted (more than a decade) and the associated projected costs are enormous. Without a sufficiently long exclusivity period, the essential work being done by stem cell and regenerative medicine companies on life saving therapies will slow or even disappear. The ICOC agrees that increasing access to vital medical technologies is important. Indeed, CIRM's Regulations include access provisions promoting availability of Drugs to all Californians, regardless of ability to pay or status of insurance coverage. But the ICOC also understands that there must first be products to which access is facilitated. Creating access at the expense of scientific progress is counter productive.

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The FTC Analysis and Conclusions Concerning Exclusivity Do Not Apply to The Stem Cell Field:

On June 11, 2009, the Federal Trade Commission ("FTC") released a report entitled "Emerging Health Care Issues: Follow-On Biologic Drug Competition." The report addressed the impact of establishing an accelerated regulatory pathway for follow on biologics ("FOB") with particular focus on how a statutory exclusivity period would impact competition. The FTC concluded that FOB market entry would neither divert significant market share from innovators nor drastically reduce prices for their products. Thus, the FTC argued that the current patent law system coupled with market based pricing adequately motivates biologic product innovation. Lengthy exclusivity periods for biologics (like those contained in H.R. 1548) are not necessary according to the FTC.

The FTC's analysis posits a set of general market conditions which are radically different from the situation presented in today's stem cell sector:

a. First, the FTC explicitly presumes that developers and manufacturers of FOBs are large pharmaceutical companies. (Report at pps. 14 and 15.) As discussed above, the companies populating the actual stem cell sector are small and emerging entities. "Big Pharma" has not yet focused significant effort or resources on this field.
b. Second, the FTC analysis assumes that the FOB companies will be able to finance their own research and development efforts, presumably through leverage opportunities or through financing mechanisms available to large, publicly traded entities. Of course, these tools are simply not available to the small start up companies currently advancing stem cell biologic therapies.
c. Third, the FTC assumes that the federal government will pay for basic biologic science. (Report, p. 28 at f.n. 101.) In the stem cell and regenerative medicine field, federal funding until recently was all but banned by Presidential Order. The Dickey Wicker Amendment still poses a huge obstacle for the field. Moreover, the NIH does not adequately support translational or clinical medicine efforts. So, even if the new administration adequately funded basic stem cell research, progressing the field through translation and clinical efforts would remain a financial challenge.
d. Fourth, the FTC assumes a state of technological development that is advanced far beyond the state of the stem cell field. According to the FTC, corporations typically fund incremental innovation to support pre-existing core business and to advance established products and process technologies. (Report, p. 28, f.n. 101.) In stark contrast, the stem cell field is only in its nascent stage.

For these reasons, the stem cell and regenerative medicine field falls outside of the FTC's analysis. Even if the FTC's logic and conclusions were correct for the type of industries considered, it neither contemplated nor analyzed the nascent stem cell and regenerative medicine field.

Conclusion:

California has placed itself at the cutting edge of a high potential scientific field. By passing Proposition 71, the electorate overwhelmingly supported stem cell research both for the critical medical promise it presents and as a key driver of California's economy into the 21st century. If Congress enacts biosimilars legislation containing short exclusivity periods, progress on both the medical and economic fronts will be threatened. Relying on the existing system of patent protection alone will not adequately incent the resource allocation needed in the stem cell and regenerative medicine sector. We encourage you to support the will of the California voters and the global interest in progressing this field of medical science. Any biosimilars legislation must contain exclusivity provisions which will promote pioneering work in biologics.

We look forward to discussing this issue with you in the near future.

Very truly yours,

Bob Klein
Chairman

Alan Trounson
President

Senator Art Torres (Ret.)
Vice Chairman, Statutory

Duane Roth
Vice Chairman, Bylaws