

AMENDED IN SENATE MAY 28, 2009

AMENDED IN SENATE MAY 6, 2009

AMENDED IN SENATE APRIL 22, 2009

AMENDED IN SENATE APRIL 2, 2009

**SENATE BILL**

**No. 471**

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**Introduced by Senators Romero and Steinberg  
(Coauthor: Senator Alquist)**

February 26, 2009

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An act to add Article 13 (commencing with Section 33475) to Chapter 3 of Part 20 of Division 2 of Title 2 of the Education Code, relating to education.

LEGISLATIVE COUNSEL'S DIGEST

SB 471, as amended, Romero. California Stem Cell and Biotechnology Education and Workforce Development Act.

The California Stem Cell Research and Cures Act, an initiative measure approved by the voters at the November 2, 2004, general election (Proposition 71), establishes the California Institute for Regenerative Medicine (CIRM), the purpose of which is, among other things, to make grants and loans for stem cell research, for research facilities, and for other vital research opportunities to realize therapies, protocols, and medical procedures that will result in the cure for, or substantial mitigation of, diseases and injuries.

This bill would create the California Stem Cell and Biotechnology Education and Workforce Development Act of 2009 to establish stem cell and biotechnology education and workforce development as a state priority and to promote ~~a stronger link~~ *stronger links* among industry sectors, the CIRM, and California public schools. This bill would require

the State Department of Education, in consultation with the CIRM and representatives of the biotechnology industry, to promote stem cell and biotechnology education and workforce development in the department's existing programs, as specified.

The bill would also require the ~~state board~~ *State Board of Education* to incorporate stem cell science curriculum content into *the* science curriculum framework at its next ~~science curriculum~~ revision. The bill would request that the Regents of the University of California consult with the CIRM and representatives of the biotechnology industry in developing curriculum for the California State Summer School for Mathematics and Science. ~~The bill, on and after January 1, 2011, would require the science subject matter project, upon agreement by the Regents of the University of California, in consultation with the CIRM and representatives of the biotechnology industry, to pursue opportunities to include stem cell and biotechnology science in professional development programs.~~

Vote: majority. Appropriation: no. Fiscal committee: yes.  
State-mandated local program: no.

*The people of the State of California do enact as follows:*

- 1 SECTION 1. The Legislature finds and declares all of the
- 2 following:
- 3 (a) If California is to retain its premier position in stem cell
- 4 research and fully realize the medical and economic benefits of
- 5 regenerative medicine, ~~a stronger link is~~ *stronger links are* needed
- 6 between California public schools and this emerging industry.
- 7 (b) At the November 2004 statewide general election, California
- 8 voters approved Proposition 71, the California Stem Cell Research
- 9 and Cures Initiative, which authorizes \$3 billion in state bond
- 10 funding for stem cell research at California universities and
- 11 research institutions and added Article XXXV to the California
- 12 Constitution and Sections 125290.10 et seq. to the Health and
- 13 Safety Code.
- 14 (c) Proposition 71 established a new state agency, the California
- 15 Institute for Regenerative Medicine (CIRM), to make grants and
- 16 provide loans for stem cell research and research facilities.
- 17 (d) The ballot pamphlet information and findings and
- 18 declarations of Proposition 71 described how stem cell research
- 19 will lead to the development of life-saving regenerative treatments

1 and cures for a variety of incurable diseases, including cancer,  
2 diabetes, heart disease, Alzheimer’s disease, Parkinson’s disease,  
3 spinal cord injuries, multiple sclerosis, and Huntington’s disease;  
4 and also benefit the California economy by creating projects, jobs,  
5 and therapies that will generate millions of dollars in new tax  
6 revenues in our state and advance the biotech industry in California  
7 to world leadership as an economic engine for California’s future.

8 (e) The public funding of stem cell research, combined with  
9 significant private donations, has made California the national  
10 leader in stem cell research.

11 (f) After President Bush limited federal funding for embryonic  
12 stem cell research in 2001, most states eliminated or significantly  
13 reduced stem cell research.

14 (g) On March 9, 2009, President Obama issued an executive  
15 order lifting restrictions on federal funding for stem cell research,  
16 leading other states to move quickly to try to catch up to California.

17 (h) Several recent reports have predicted that California will  
18 soon face a dramatic shortage of trained professionals to fill jobs  
19 in the life sciences sector and a more widespread shortage of  
20 college educated and technically trained workers to meet industry  
21 demands.

22 (i) California’s growing gap between supply and demand for  
23 ~~college-educated~~ *college-educated* and technically trained workers  
24 is exacerbated by an alarming high school dropout rate.

25 (j) Education must be the cornerstone of California’s economic  
26 development strategy, and education that is closely linked to the  
27 needs of emerging industries is critical.

28 ~~(k) CIRM, in recognition that the rapid progress in stem cell  
29 research in California will lead to the development of treatments  
30 and cures, to the growth of regenerative medicine and the stem  
31 cell industry, and~~

32 *(k) The CIRM, in recognition that translating stem cell research  
33 into therapies and cures will require an expanding pool of  
34 individuals with specialized training and skills, has tentatively  
35 made Bridges to Stem Cell Research grants to fund research and  
36 training activities for postsecondary students interested in careers  
37 in regenerative medicine.*

38 *(l) The CIRM also is developing a “California Stem Cell  
39 Education Initiative” aimed at high schools with the goal of broadly  
40 educating California pupils about stem cell science and regenerative*

1 medicine and creating pathways for careers in the stem cell  
2 industry.

3 (m) The biotechnology industry, in response to an ongoing  
4 shortage of appropriately educated and trained graduates to meet  
5 its workforce requirements, has invested tens of millions of dollars  
6 developing and implementing science and math education programs  
7 in California. ~~The California Biotechnology Foundation~~ *An industry*  
8 *group* is releasing a comprehensive directory of these ~~industry~~  
9 programs as a resource for other schools to implement similar  
10 programs.

11 (n) In order to ensure that all California pupils have an  
12 opportunity for a career in the stem cell and biotechnology  
13 industries and that California fully ~~realize~~ *realizes* the medical and  
14 economic benefits these industries offer, including the benefits  
15 made possible by the substantial public investment California has  
16 made in stem cell research and facilities, all education policymakers  
17 and institutions of public education, and all relevant public agencies  
18 and industry organizations, should collaborate and make it a  
19 priority to increase stem cell and biotechnology education and  
20 workforce development.

21 SEC. 2. Article 13 (commencing with Section 33475) is added  
22 to Chapter 3 of Part 20 of Division 2 of Title 2 of the Education  
23 Code, to read:

24  
25 Article 13. The California Stem Cell and Biotechnology  
26 Education *and* Workforce Development Act of 2009  
27

28 33475. This article shall be known, and may be cited, as the  
29 California Stem Cell and Biotechnology Education and Workforce  
30 Development Act of 2009.

31 33475.1. The purpose of this article is to establish stem cell  
32 and biotechnology education and workforce development as a state  
33 priority and to promote ~~a stronger link~~ *stronger links* among these  
34 industry sectors, the California Institute for Regenerative Medicine,  
35 and California public schools.

36 33475.2. For purposes of this article, the following definitions  
37 shall apply:

38 (a) “CIRM” means the California Institute for Regenerative  
39 Medicine.

40 (b) “Department” means the State Department of Education.

1 33475.3. The department, in consultation with *the* CIRM and  
2 representatives of the biotechnology industry, shall promote stem  
3 cell and biotechnology education and workforce development in  
4 the department’s existing programs, including, but not limited to,  
5 all of the following:

- 6 (a) The California Health Science Educators Institute.
- 7 (b) The Health Science Capacity Building Project.
- 8 (c) The California Partnership Academies, *pursuant to Article*  
9 *5 (commencing with Section 54690) of Chapter 9 of Part 29 of*  
10 *Division 4.*
- 11 (d) The regional science resource centers, pursuant to Chapter  
12 3.6 (commencing with Section 44770) of Part 25 of Division 3.
- 13 (e) The California *Career* Resource Network, including the  
14 State Agency Partners Committee.
- 15 (f) Multiple pathway programs pursuant to Section 52372.5.
- 16 (g) The K-12 High Speed Network, pursuant to Section 11800,  
17 including its academic content platform.

18 33475.4. The department shall post on its Internet Web site  
19 information and links to information about the following:

- 20 (a) ~~Existing biotechnology~~ *Biotechnology* education programs,  
21 including, but not limited to, those identified by the ~~California~~  
22 ~~Biotechnology Foundation~~; *biotech industry and industry-related*  
23 *organizations.*
- 24 (b) *The* CIRM education initiatives and related stem cell  
25 education and workforce development programs.

26 33475.5. The state board shall incorporate stem cell science  
27 curriculum content into *the* science curriculum framework at its  
28 ~~next-science-curriculum~~ revision.

29 33475.6. The Regents of the University of California are  
30 requested to consult with the CIRM and ~~representative~~  
31 *representatives* of the biotechnology industry in developing  
32 curriculum for the California State Summer School for  
33 Mathematics and Science pursuant to Chapter 3.8 (commencing  
34 with Section 8660) of Part 6 of Division 1 of Title 1.

35 33475.7. ~~Commencing January 1, 2011, the science subject~~  
36 ~~matter project described in Section 99201, upon agreement by the~~  
37 ~~Regents of the University of California, in consultation with the~~  
38 ~~CIRM and representatives of the biotechnology industry, shall~~  
39 ~~include stem cell and biotechnology science in professional~~  
40 ~~development programs.~~

1 33475.8.  
2 33475.7. It is requested that the Independent Citizens Oversight  
3 Committee of CIRM, when allocating funds for stem cell research  
4 and facilities pursuant to Chapter 3 (commencing with Section  
5 125290.10) of Part 5 of Division 106 of the Health and Safety  
6 Code, consider education and workforce development in addition  
7 to other criteria, with the goal of furthering the purpose of this  
8 article.

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