

AMENDED IN ASSEMBLY JULY 15, 2009

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

Introduced by Senators Romero and Steinberg

(~~Coauthor: Senator Alquist~~ Coauthors: Senators Alquist and Padilla)

*(Coauthors: Assembly Members Ammiano, Brownley, Carter, Eng, Hill,
Solorio, and Torlakson)*

February 26, 2009

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 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 of Education to incorporate stem cell science curriculum content into the science curriculum framework, *evaluation criteria*, and *instructional materials* at its next revision and adoption. 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.

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, stronger links are needed between California
- 6 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 and technically trained workers is exacerbated
24 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) The CIRM, in recognition that translating stem cell research
29 into therapies and cures will require an expanding pool of
30 individuals with specialized training and skills, has made Bridges
31 to Stem Cell Research grants to fund research and training activities
32 for postsecondary students interested in careers in regenerative
33 medicine.

34 (l) The CIRM also is developing a “California Stem Cell
35 Education Initiative” aimed at high schools with the goal of broadly
36 educating California pupils about stem cell science and regenerative
37 medicine and creating pathways for careers in the stem cell
38 industry.

39 (m) The biotechnology industry, in response to an ongoing
40 shortage of appropriately educated and trained graduates to meet

1 its workforce requirements, has invested tens of millions of dollars
2 developing and implementing science and math education programs
3 in California. An industry group is releasing a comprehensive
4 directory of these programs as a resource for other schools to
5 implement similar programs.

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

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

19
20 Article 13. The California Stem Cell and Biotechnology
21 Education and Workforce Development Act of 2009
22

23 33475. This article shall be known, and may be cited, as the
24 California Stem Cell and Biotechnology Education and Workforce
25 Development Act of 2009.

26 33475.1. The purpose of this article is to establish stem cell
27 and biotechnology education and workforce development as a state
28 priority and to promote stronger links among these industry sectors,
29 the California Institute for Regenerative Medicine, and California
30 public schools.

31 33475.2. For purposes of this article, the following definitions
32 shall apply:

33 (a) "CIRM" means the California Institute for Regenerative
34 Medicine.

35 (b) "Department" means the State Department of Education.

36 33475.3. The department, in consultation with the CIRM and
37 representatives of the biotechnology industry, shall promote stem
38 cell and biotechnology education and workforce development in
39 the department's existing programs, including, but not limited to,
40 all of the following:

- 1 (a) The California Health Science Educators Institute.
- 2 (b) The Health Science Capacity Building Project.
- 3 (c) The California Partnership Academies, pursuant to Article
- 4 5 (commencing with Section 54690) of Chapter 9 of Part 29 of
- 5 Division 4.
- 6 (d) The regional science resource centers, pursuant to Chapter
- 7 3.6 (commencing with Section 44770) of Part 25 of Division 3.
- 8 (e) The California Career Resource Network, including the State
- 9 Agency Partners Committee.
- 10 (f) Multiple pathway programs pursuant to Section 52372.5.
- 11 (g) The K-12 High Speed Network, pursuant to Section 11800,
- 12 including its academic content platform.
- 13 33475.4. The department shall post on its Internet Web-site
- 14 *site, and as appropriate, on the Internet Web site created pursuant*
- 15 *to Section 52499.66, information and links to information about*
- 16 *the following:*
- 17 (a) Biotechnology education programs, including, but not limited
- 18 to, those identified by the biotech industry and industry-related
- 19 organizations.
- 20 (b) The CIRM education initiatives and related stem cell
- 21 education and workforce development programs.
- 22 33475.5. The state board shall incorporate stem cell science
- 23 curriculum content into the science curriculum—~~framework~~
- 24 *framework, evaluation criteria, and instructional materials at its*
- 25 *next revision and adoption.*
- 26 33475.6. The Regents of the University of California are
- 27 requested to consult with the CIRM and representatives of the
- 28 biotechnology industry in developing curriculum for the California
- 29 State Summer School for Mathematics and Science pursuant to
- 30 Chapter 3.8 (commencing with Section 8660) of Part 6 of Division
- 31 1 of Title 1.
- 32 33475.7. It is requested that the Independent Citizens Oversight
- 33 Committee, when allocating funds for stem cell research and
- 34 facilities pursuant to Chapter 3 (commencing with Section
- 35 125290.10) of Part 5 of Division 106 of the Health and Safety
- 36 Code, consider education and workforce development in addition
- 37 to other criteria, with the goal of furthering the purpose of this
- 38 article.

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