

## California



California has the largest bioscience industry employment base among states with more than 235,000 jobs or 15 percent of the national sector. The state has a specialized concentration in the biosciences with a 28 percent greater concentration of industry jobs relative to the national average. This includes a specialization in three of the five major subsectors including: medical devices and equipment; research, testing, and medical labs; and drugs and pharmaceuticals. These three specialized subsectors have all added jobs over the 2007 to 2012 period and contributed to 5 percent employment growth in the state bioscience sector. California is a national leader in several other performance metrics including bioscience venture capital investments at over \$19 billion since 2009; NIH funding awarded to state institutions at \$3.3 billion; and academic bioscience R&D expenditures at \$5.1 billion. California's large bioscience research infrastructure has yielded nearly 30,000 patents since 2009.

### Bioscience Performance Metrics

#### Summary of State Performance in Selected Bioscience-related Metrics

Metric	California	United States	Quintile
<b>Bioscience Industry, 2012</b>			
Bioscience Industry Employment	235,864	1,619,746	I
Bioscience Industry Location Quotient	1.28	n/a	I
Bioscience Industry Establishments	8,019	73,088	I
<b>Academic Bioscience R&amp;D Expenditures, FY 2012</b>			
Bioscience R&D (\$ thousands)	\$5,066,587	\$38,139,876	I
Bioscience Share of Total R&D	63%	61%	III
Bioscience R&D Per Capita	\$132	\$119	II
<b>NIH Funding, FY 2013</b>			
Funding (\$ thousands)	\$3,334,417	\$22,293,255	I
Funding Per Capita	\$87	\$70	II
<b>Bioscience Venture Capital Investments, 2009–13 (\$ millions)</b>			
	\$19,203.3	\$49,401.7	I
<b>Bioscience and Related Patents, 2009–13</b>			
	29,832	100,238	I

State ranking figures for bioscience performance metrics are calculated as quintiles, where I = top quintile, III = middle quintile, and V = bottom quintile.

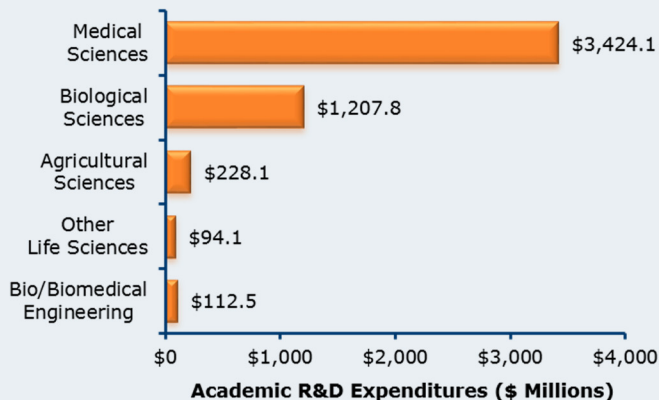
For source notes, see end of State Profile.

Industry Subsector	California		United States	
	2012	2007-2012 Change	2012	2007-2012 Change
<b>Agricultural Feedstock &amp; Chemicals</b>				
Establishments	117	-11.7%	1,772	5.2%
Employment	2,954	-0.8%	76,404	-1.0%
Location Quotient	0.34		n/a	
Direct-Effect Employment Multiplier	19.3		18.1	
Total Employment Impact	57,052		1,382,637	
Average Annual Wage	\$74,806	40.6%	\$75,828	14.2%
<b>Bioscience-Related Distribution</b>				
Establishments	3,092	13.2%	36,793	1.4%
Employment	47,470	-3.6%	442,016	-3.9%
Location Quotient	0.95		n/a	
Direct-Effect Employment Multiplier	2.8		2.7	
Total Employment Impact	133,562		1,199,015	
Average Annual Wage	\$90,147	7.3%	\$85,188	11.5%
<b>Drugs and Pharmaceuticals</b>				
Establishments	500	28.2%	3,057	12.0%
Employment	44,229	0.6%	284,331	-10.9%
Location Quotient	1.37		n/a	
Direct-Effect Employment Multiplier	11.7		9.9	
Total Employment Impact	518,881		2,673,265	
Average Annual Wage	\$135,190	22.5%	\$106,576	13.9%
<b>Medical Devices and Equipment</b>				
Establishments	1,039	7.9%	7,235	12.0%
Employment	61,698	1.2%	349,432	1.4%
Location Quotient	1.55		n/a	
Direct-Effect Employment Multiplier	4.5		3.9	
Total Employment Impact	278,288		1,318,459	
Average Annual Wage	\$92,088	6.4%	\$75,695	10.7%
<b>Research, Testing, and Medical Laboratories</b>				
Establishments	3,271	29.7%	24,231	31.0%
Employment	79,514	19.2%	467,563	9.7%
Location Quotient	1.50		n/a	
Direct-Effect Employment Multiplier	3.1		2.7	
Total Employment Impact	243,609		1,284,196	
Average Annual Wage	\$115,140	23.4%	\$91,248	15.9%
<b>Total Bioscience Industry</b>				
Establishments	8,019	19.0%	73,088	11.4%
Employment	235,864	5.4%	1,619,746	-0.4%
Location Quotient	1.28		n/a	
Direct-Effect Employment Multiplier	5.4		4.9	
Total Employment Impact	1,282,795		7,857,572	
Average Annual Wage	\$107,335	16.3%	\$88,202	12.8%
<b>Total Private Sector</b>				
Establishments	1,233,358	-2.4%	8,699,564	-0.5%
Employment	12,629,150	-4.5%	111,137,206	-3.1%
Average Annual Wage	\$56,245	12.6%	\$49,130	11.1%

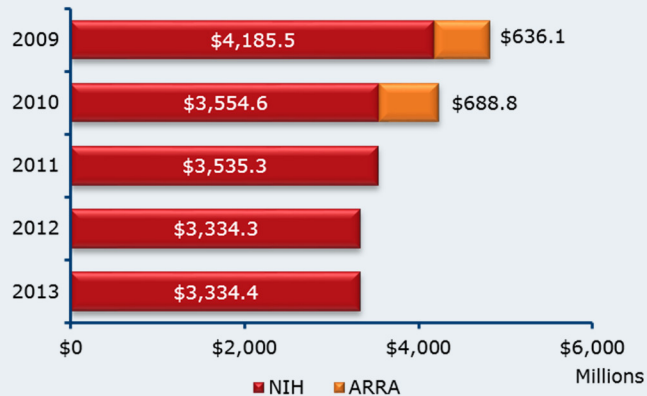
Note: U.S. employment metrics include Puerto Rico. Estimates of total impacts do not include Puerto Rico.

## Bioscience Research in California

### Bioscience Academic R&D Expenditures, FY 2012

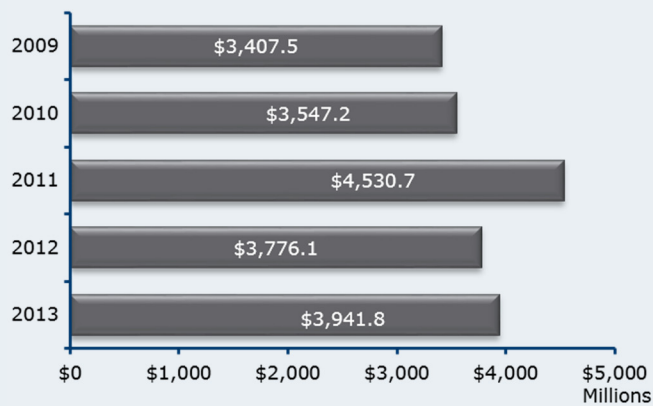


### NIH Awards, 2009–2013

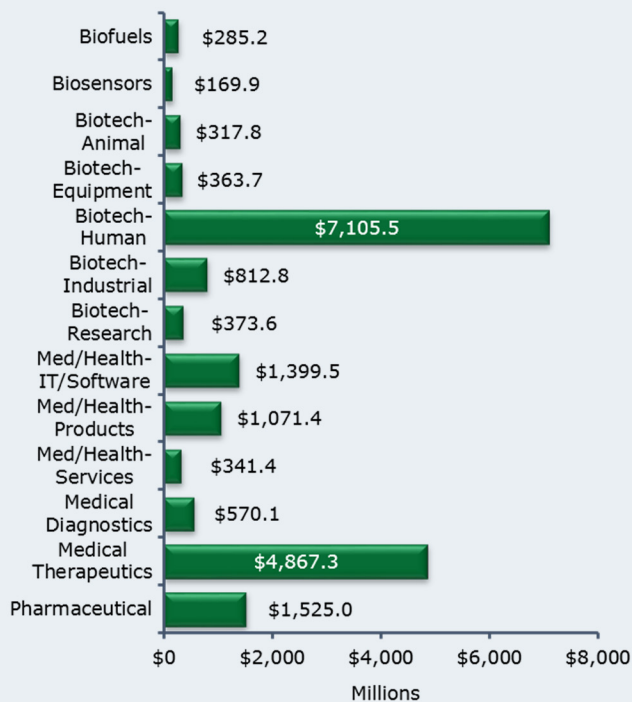


## Bioscience Venture Capital in California

### Bioscience-Related Venture Capital Investments, 2009–2013

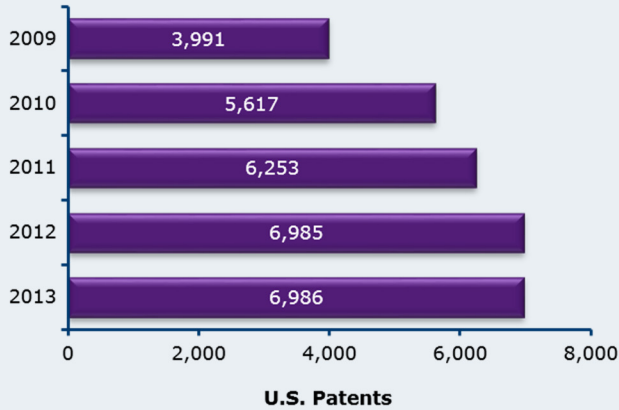


### Bioscience-Related Venture Capital Investments by Segment, 2009–2013

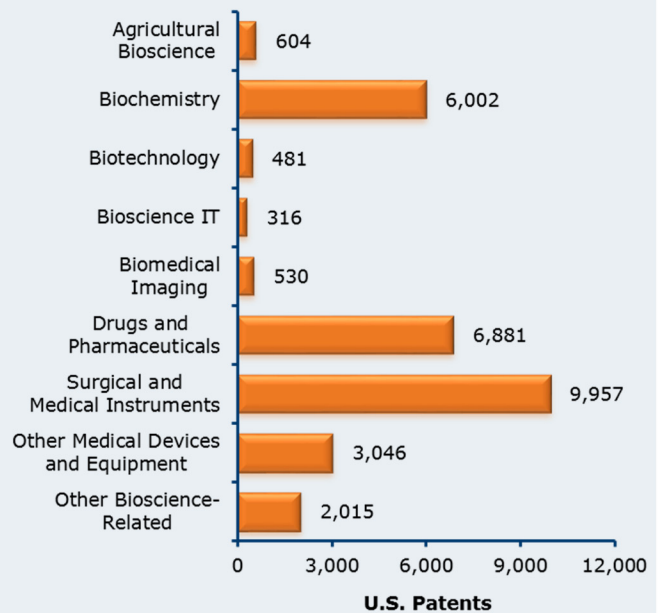


## Bioscience Patents in California

**Bioscience-Related Patents, 2009–2013**



**Bioscience-Related Patents by Segment, 2009–2013**



### Source Notes

**Employment, Establishments, and Wages:** U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW), enhanced file from the IMPLAN Group, LLC.

**Employment Multipliers:** IMPLAN Group, LLC state-level Input/Output models.

**Academic R&D Expenditures:** National Science Foundation (NSF) Higher Education Research and Development (HERD) Survey.

**NIH Funding:** National Institutes of Health, *NIH Awards by Location & Organization* (summary information within RePORT database), and NIH-managed funding for FY 2009 and FY 2010 from the American Recovery and Reinvestment Act (ARRA) website.

**Venture Capital:** Thomson Reuters Thomson ONE venture capital database.

**Patents:** U.S. Patent & Trademark Office data from Thomson Reuters Delphion Patent Analysis Database.

For a more detailed discussion of the data and methodology used, please see the Appendix to the full national report.