

## Wisconsin



Wisconsin’s bioscience industry is sizable and growing, with nearly 32,000 industry jobs that spanned 1,391 business establishments in 2012. The state industry increased employment by 8.2 percent from 2007 to 2012, a period which includes the deep national recession and early years of the recovery. Double-digit job gains from three of the five industry subsectors contributed to Wisconsin’s overall employment increase, these include: drugs and pharmaceuticals; research, testing, and medical labs; and medical device manufacturing. The state has a specialized employment concentration in medical device manufacturing with a 50 percent greater concentration in Wisconsin relative to the national average (location quotient is 1.50). Wisconsin’s research universities are especially focused in the biosciences relative to other fields with their \$934 million in bioscience academic R&D in 2012 accounting for 70 percent of all academic research compared with 61 percent for the national average. State inventors have been issued 3,048 bioscience-related patents since 2009 with a focus in surgical and medical devices, biochemistry, and drugs and pharmaceuticals.

### Bioscience Performance Metrics

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

Metric	Wisconsin	United States	Quintile
<b>Bioscience Industry, 2012</b>			
Bioscience Industry Employment	31,758	1,619,746	II
Bioscience Industry Location Quotient	0.94	n/a	II
Bioscience Industry Establishments	1,391	73,088	II
<b>Academic Bioscience R&amp;D Expenditures, FY 2012</b>			
Bioscience R&D (\$ thousands)	\$934,051	\$38,139,876	II
Bioscience Share of Total R&D	70%	61%	I
Bioscience R&D Per Capita	\$163	\$119	I
<b>NIH Funding, FY 2013</b>			
Funding (\$ thousands)	\$371,985	\$22,293,255	II
Funding Per Capita	\$65	\$70	II
<b>Bioscience Venture Capital Investments, 2009–13 (\$ millions)</b>	\$260.0	\$49,401.7	III
<b>Bioscience and Related Patents, 2009–13</b>	3,048	100,238	II

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

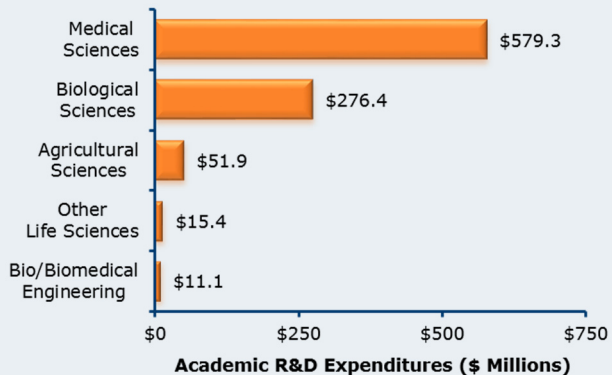
For source notes, see end of State Profile.

Industry Subsector	Wisconsin		United States	
	2012	2007-2012 Change	2012	2007-2012 Change
<b>Agricultural Feedstock &amp; Chemicals</b>				
Establishments	46	-19.7%	1,772	5.2%
Employment	1,316	1.3%	76,404	-1.0%
Location Quotient	0.83		n/a	
Direct-Effect Employment Multiplier	16.5		18.1	
Total Employment Impact	21,701		1,382,637	
Average Annual Wage	\$56,369	24.2%	\$75,828	14.2%
<b>Bioscience-Related Distribution</b>				
Establishments	816	-5.4%	36,793	1.4%
Employment	10,296	-2.1%	442,016	-3.9%
Location Quotient	1.09		n/a	
Direct-Effect Employment Multiplier	2.7		2.7	
Total Employment Impact	27,835		1,199,015	
Average Annual Wage	\$70,658	10.5%	\$85,188	11.5%
<b>Drugs and Pharmaceuticals</b>				
Establishments	80	23.1%	3,057	12.0%
Employment	4,103	21.4%	284,331	-10.9%
Location Quotient	0.70		n/a	
Direct-Effect Employment Multiplier	8.5		9.9	
Total Employment Impact	34,953		2,673,265	
Average Annual Wage	\$65,288	-3.3%	\$106,576	13.9%
<b>Medical Devices and Equipment</b>				
Establishments	186	28.3%	7,235	12.0%
Employment	10,912	10.4%	349,432	1.4%
Location Quotient	1.50		n/a	
Direct-Effect Employment Multiplier	4.4		3.9	
Total Employment Impact	48,215		1,318,459	
Average Annual Wage	\$84,177	7.3%	\$75,695	10.7%
<b>Research, Testing, and Medical Laboratories</b>				
Establishments	263	21.4%	24,231	31.0%
Employment	5,132	20.3%	467,563	9.7%
Location Quotient	0.53		n/a	
Direct-Effect Employment Multiplier	2.6		2.7	
Total Employment Impact	13,405		1,284,196	
Average Annual Wage	\$61,910	4.5%	\$91,248	15.9%
<b>Total Bioscience Industry</b>				
Establishments	1,391	3.3%	73,088	11.4%
Employment	31,758	8.2%	1,619,746	-0.4%
Location Quotient	0.94		n/a	
Direct-Effect Employment Multiplier	4.7		4.9	
Total Employment Impact	148,833		7,857,572	
Average Annual Wage	\$72,604	7.2%	\$88,202	12.8%
<b>Total Private Sector</b>				
Establishments	146,117	-3.8%	8,699,564	-0.5%
Employment	2,306,190	-3.9%	111,137,206	-3.1%
Average Annual Wage	\$41,749	10.7%	\$49,130	11.1%

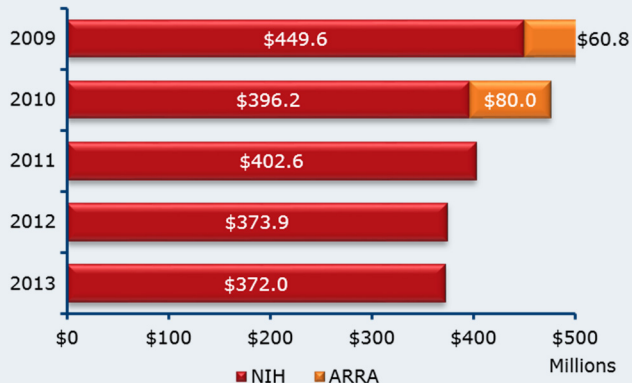
Note: U.S. employment metrics include Puerto Rico. Estimates of total impacts do not include Puerto Rico.

## Bioscience Research in Wisconsin

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



### NIH Awards, 2009–2013

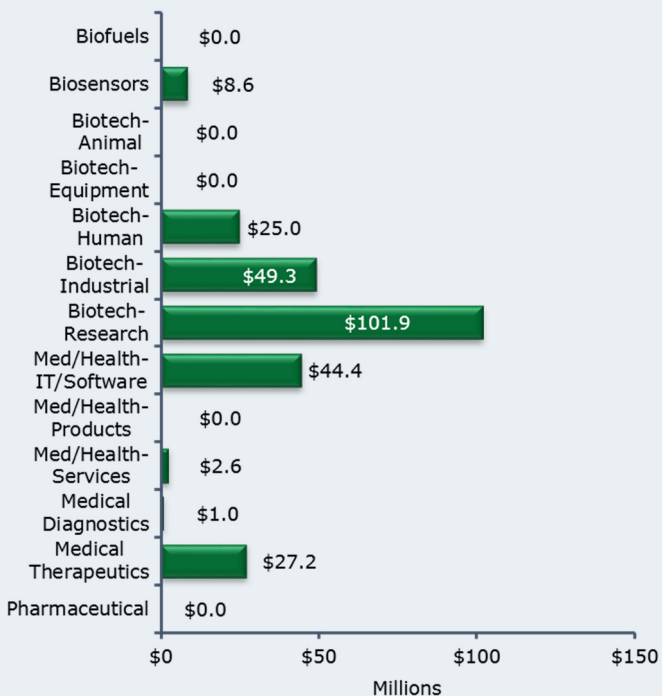


## Bioscience Venture Capital in Wisconsin

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

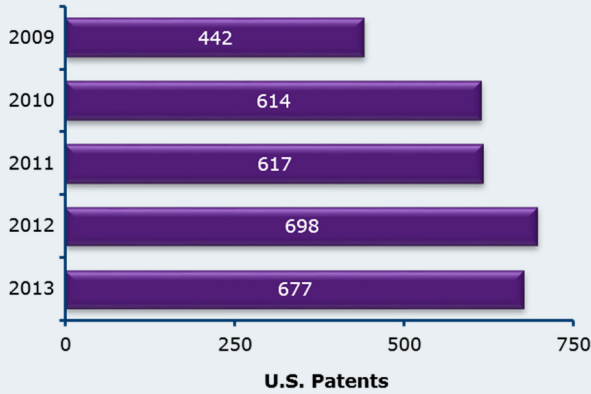


### Bioscience-Related Venture Capital Investments by Segment, 2009–2013

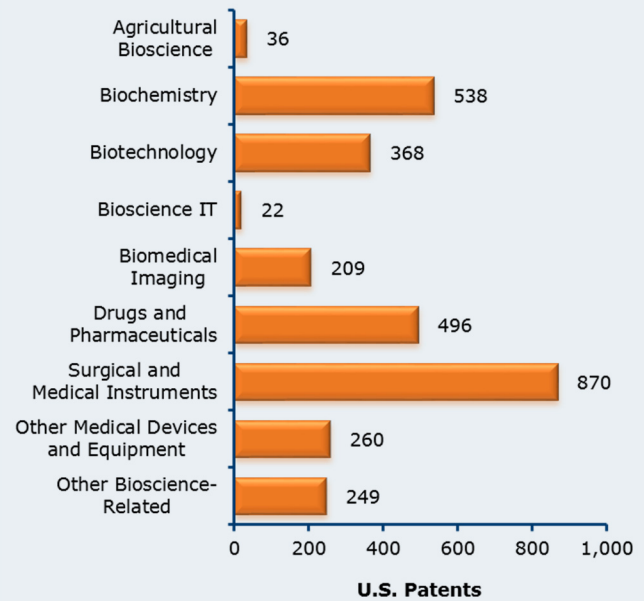


## Bioscience Patents in Wisconsin

### 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.