



TEconomy/BIO

**The Value of Bioscience Innovation in Growing Jobs and Improving Quality of Life 2016**

**Arkansas**

Arkansas' bioscience industry employed 6,617 in 2014 in 628 business establishments across the state. Arkansas has a strong employment concentration in the agricultural feedstock and chemicals subsector with a 14 percent greater concentration compared to the national average (location quotient of 1.14). The industry has increased employment in Arkansas by 3.3 percent since 2012 with four of the five major industry subsectors contributing to this overall job growth. Arkansas has a strong focus in bioscience-related academic R&D expenditures relative to other fields with 83 percent of R&D in the life sciences compared with 61 percent, on average, for the U.S. Arkansas inventors have been issued 289 bioscience-related patents since 2012 across several areas including agricultural biosciences, medical and surgical devices, drugs and pharmaceuticals, and microbiology and genetics.

**Bioscience Performance Metrics**

Summary of State Performance in Selected Bioscience-related Metrics

Metric	Arkansas	United States	Quintile
<b>Bioscience Industry, 2014</b>			
Bioscience Industry Employment	6,617	1,655,680	IV
Bioscience Industry Location Quotient	0.48	n/a	V
Bioscience Industry Establishments	628	77,283	IV
<b>Academic Bioscience R&amp;D Expenditures, FY 2014</b>			
Bioscience R&D (\$ thousands)	\$219,318	\$38,873,926	IV
Bioscience Share of Total R&D	83%	61%	I
Bioscience R&D Per Capita	\$74	\$122	IV
<b>NIH Funding, FY 2015</b>			
Funding (\$ thousands)	\$39,330	\$22,869,746	V
Funding Per Capita	\$13	\$71	V
<b>Bioscience Venture Capital Investments, 2012–15 (\$ millions)</b>	\$5.9	\$48,742.10	V
<b>Bioscience and Related Patents, 2012–15</b>	289	101,026	IV

State ranking figures for bioscience performance metrics are calculated as quintiles, where:

top quintile – I II III IV V – bottom quintile

For source notes, see end of State Profile.



**Arkansas**

Industry Subsector	Arkansas		United States	
	2014	2012–2014 Change	2014	2012–2014 Change
<b>Agricultural Feedstock and Chemicals</b>				
Establishments	19	-13.6%	1,811	2.2%
Employment	728	2.8%	77,545	1.5%
Location Quotient	1.14		n/a	
Direct-Effect Employment Multiplier	21.1		18.4	
Total Employment Impact	15,386		1,432,125	
Average Annual Wage	\$56,013	19.6%	\$80,640	6.3%
<b>Bioscience-Related Distribution</b>				
Establishments	404	-0.1%	37,833	2.8%
Employment	3,783	-2.5%	452,325	2.3%
Location Quotient	1.01		n/a	
Direct-Effect Employment Multiplier	2.8		3.0	
Total Employment Impact	10,547		1,358,820	
Average Annual Wage	\$53,270	4.8%	\$90,458	6.2%
<b>Drugs and Pharmaceuticals</b>				
Establishments	14	7.7%	3,301	8.0%
Employment	265	61.6%	293,353	3.2%
Location Quotient	0.11		n/a	
Direct-Effect Employment Multiplier	9.9		11.0	
Total Employment Impact	2,624		3,242,627	
Average Annual Wage	\$51,239	-6.6%	\$117,524	10.3%
<b>Medical Devices and Equipment</b>				
Establishments	34	13.3%	7,636	5.5%
Employment	488	44.3%	349,045	-0.1%
Location Quotient	0.17		n/a	
Direct-Effect Employment Multiplier	4.0		4.6	
Total Employment Impact	1,970		1,596,802	
Average Annual Wage	\$46,336	-4.0%	\$79,537	5.1%
<b>Research, Testing, and Medical Laboratories</b>				
Establishments	157	18.8%	26,702	10.2%
Employment	1,353	2.7%	483,412	3.4%
Location Quotient	0.34		n/a	
Direct-Effect Employment Multiplier	2.7		3.1	
Total Employment Impact	3,640		1,554,719	
Average Annual Wage	\$57,056	0.2%	\$97,485	6.8%
<b>Total Bioscience Industry</b>				
Establishments	628	4.4%	77,283	5.7%
Employment	6,617	3.3%	1,655,680	2.2%
Location Quotient	0.48		n/a	
Direct-Effect Employment Multiplier	5.2		5.5	
Total Employment Impact	34,591		9,185,094	
Average Annual Wage	\$53,754	4.1%	\$94,543	7.2%
<b>Total Private Sector</b>				
Establishments	82,714	2.3%	8,937,672	2.7%
Employment	957,159	1.3%	116,018,300	4.4%
Average Annual Wage	\$39,723	4.9%	\$51,148	4.3%

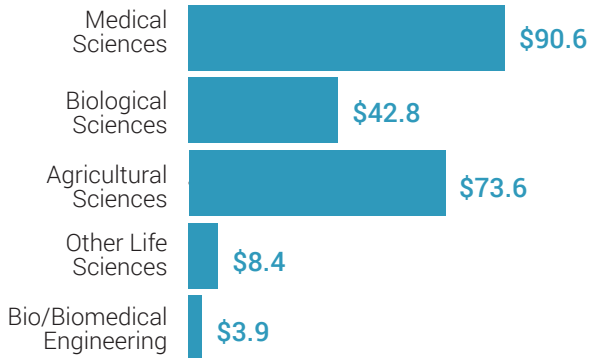
Note: U.S. employment metrics include Puerto Rico.



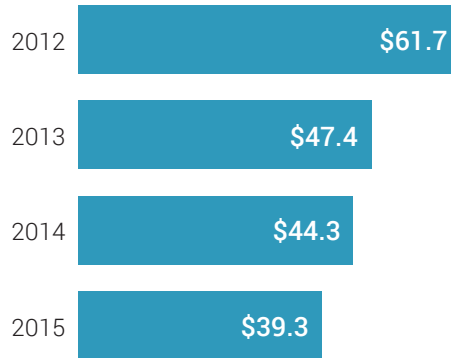
**Arkansas**

**Bioscience Research in Arkansas**

Bioscience Academic R&D Expenditures  
\$ Millions  
FY 2014

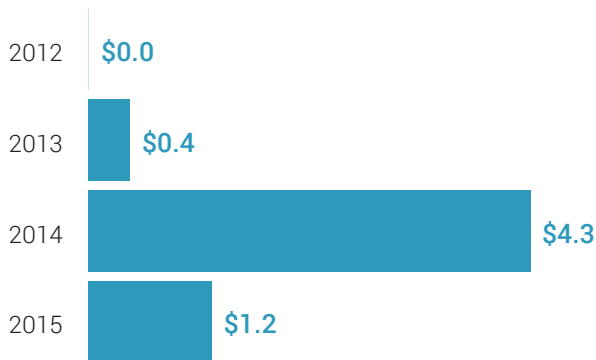


NIH Awards  
\$ Millions  
FY 2012-2015

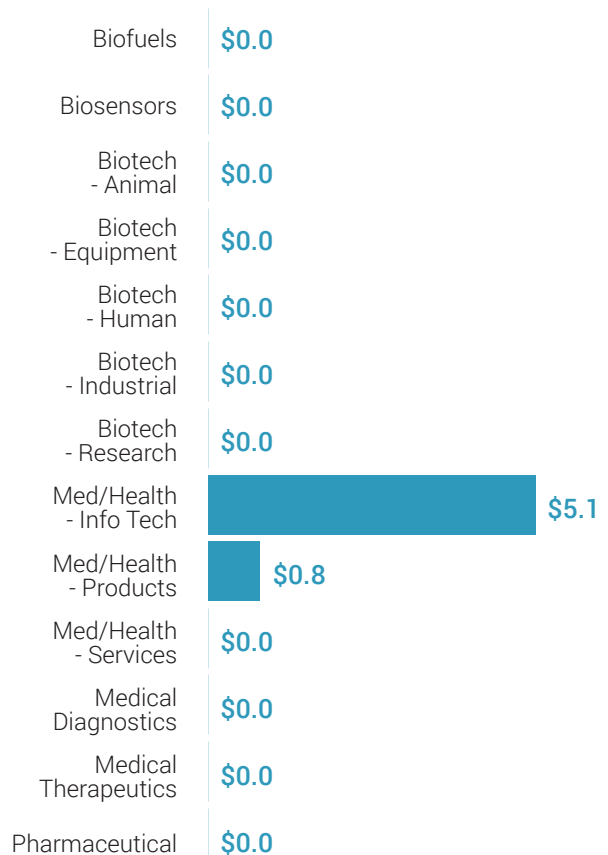


**Bioscience Venture Capital in Arkansas**

Bioscience-Related Venture  
Capital Investments  
\$ Millions  
2012-2015



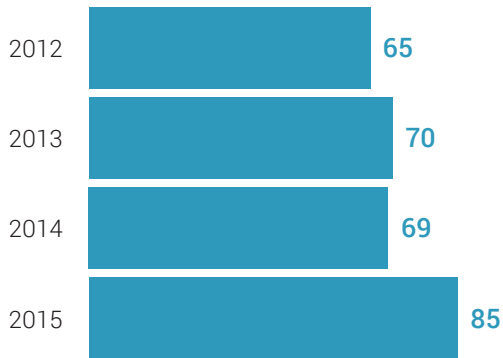
Bioscience-Related Venture  
Capital Investments by Segment  
\$ Millions  
2012-2015



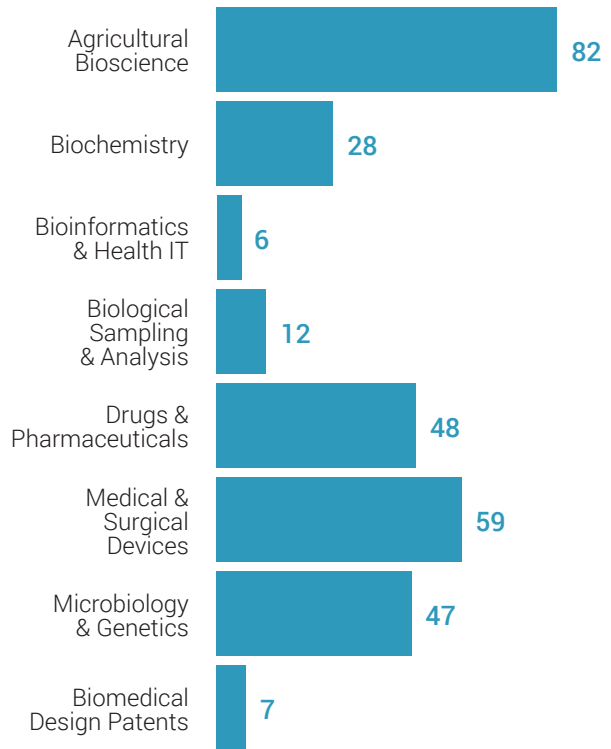


Bioscience Patents in Arkansas

Bioscience-Related U.S. Patents 2012-2015



Bioscience-Related U.S. Patents by Segment 2012-2015



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).

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

**Patents:** U.S. Patent & Trademark Office data from Thomson Reuters Thomson Innovation patent analysis database.

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

