

Rhode Island's bioscience industry has experienced strong employment growth since 2018, increasing by nearly 25 percent and reaching 5,773 jobs in 2021, with firms operating 666 business establishments across the state. All five of the state's bioscience industry subsectors contributed to the overall job gains. Rhode Island has a specialized employment concentration in medical devices and equipment (location quotient is 1.55), as well as a high concentration in pharmaceuticals. Rhode Island has a strong concentration in NIH awards to its research institutions with per capita funding at more than twice the national average. Its receipt of NIH funding has steadily risen in recent years and totaled nearly \$244 million in 2021. This federal funding helps to fuel the \$172 million in bioscience-related R&D expenditures at the state's research universities. Venture capital investments in Rhode Island bioscience companies increased in 2021 and totaled nearly \$40 million.

Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

Metric	Rhode Island	United States	Quintile
Bioscience Industry, 2021			
Bioscience Industry Employment	5,773	2,135,704	V
Bioscience Industry Location Quotient	0.82	n/a	III
Bioscience Industry Establishments	666	127,389	V
Academic Bioscience R&D Expenditures, FY 2020			
Bioscience R&D (\$ thousands)	\$172,342	\$51,108,737	IV
Bioscience Share of Total R&D	47%	63%	V
Bioscience R&D Per Capita	\$157	\$154	II
NIH Funding, FY 2021			
Funding (\$ thousands)	\$243,786	\$34,751,109	III
Funding Per Capita	\$223	\$105	I
Bioscience Venture Capital Investments, 2018-21 (\$ millions)	\$72.79	\$197,674.54	IV
Bioscience-Related Patents, 2018-21	862	153,072	III

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.

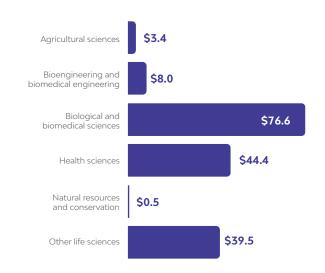
Agricultural Feedstock Employment 12 548.6% 69,573 1.95 and Industrial Biosciences Average Annual Wage \$58,294 26.6% \$91,989 13.15 for plant in the property of the property o	Industry Subsector		Rhode Island			United States	
Agricultural Freedstock and Industrial Biosciences Employment 12 548.6% 69,573 1,93 Freedstock and Industrial Biosciences Average Annual Wage \$58,294 26.6% \$91,989 13.15 Bioscience-Related Distribution Establishments 358 41.1% 62,697 14.75 Bioscience-Related Distribution Employment 1,459 24.6% 602,589 6.65 Average Annual Wage \$116,700 21.6% \$121,606 15.05 Average Annual Wage \$116,700 21.6% \$121,606 15.05 Medical Devices and Equipment Employment 2,022 38.2% 398,847 5.55 Average Annual Wage \$67,563 -12.5% \$98,481 8.75 Establishments 26 38.7% 5.973 34.75 Employment 1,320 10.4% 344,839 11.95 Location Quotient 1,117 n/a 1.05 Average Annual Wage \$116,635 -0.8% \$126,153 10.35 Research, Testing, and Medica			2021		2021	2018-2021 Change	
Feedstock and Industrial Biosciences Employment 12 548.6% 69,573 1.95 Biosciences Average Annual Wage \$58,294 26.6% \$91,989 13.15 Bioscience-Related Distribution Establishments 358 41.1% 62,697 14.75 Bioscience-Related Distribution Employment 1,459 24.6% 602,589 6.65 Average Annual Wage \$116,700 21.6% \$121,606 15.05 Medical Devices and Equipment 50 10.6% 10,268 17.43 Medical Devices and Equipment Employment 2,022 38.2% 398.847 5.55 Average Annual Wage \$67,563 -12.5% \$98.481 8.75 Average Annual Wage \$67,563 -12.5% \$98.481 8.75 Employment 1,320 10.4% 344.839 11.95 Location Quotient 1,17 n/a Average Annual Wage \$116,635 -0.8% \$126,153 10.35 Research, Testing, and Medical Laboratories Establishments 231 76,6% 46,503 34.55 Employment 959 19,9% 719,856 19.35 Average Annual Wage \$93,228 35.9% \$147,396 22.05 Total Bioscience Industry Employment 5,773 24.6% 2,135,704 11.05 Total Provate Employment 99,5450 5.0% \$125,750 16.45	Feedstock and Industrial	Establishments	1	-	1,948	10.0%	
and Industrial Blosciences Location Quotient 0.05 n/a Average Annual Wage \$58,294 26,6% \$91,989 13.15 Bioscience-Related Distribution Employment 1,459 24,6% 602,589 6,65 Related Distribution Location Quotient 0.74 n/a 15,00 15,00 Average Annual Wage \$116,700 21,6% \$121,606 15,00 15,00 Medical Devices and Equipment Establishments 50 10,6% 10,268 17,45 Medical Devices and Equipment Location Quotient 1.55 n/a 1,47		Employment	12	548.6%	69,573	1.9%	
Average Annual Wage \$58,294 26.6% \$91,989 13.13 Establishments 358 41.1% 62,697 14.7% Bioscience-Related Distribution Location Quotient 0.74 n/a Average Annual Wage \$116,700 21.6% \$121,606 15.00 Establishments 50 10.6% 10,268 17.4% Medical Devices and Equipment Location Quotient 1.55 n/a Average Annual Wage \$67,563 -12.5% \$98,481 8.7% Establishments 26 38.7% 5,973 34.7% Establishments Location Quotient 1.17 n/a Average Annual Wage \$116,635 -0.8% \$126,153 10.3% Research, Testing, and Medical Location Quotient 0.41 n/a Location Quotient Location Quotient 0.41 n/a Location Quotient Location Quotient 0.41 n/a Location Quotient 0.42 n/a Average Annual Wage \$93,228 \$55.9% \$147,396 22.03 Establishments 666 48.2% 127,389 22.35 Location Quotient 0.82 n/a Average Annual Wage \$95,450 5.0% \$125,750 16.45 Establishments Employment 404,326 -4.1% 123,376,557 -1.55 Total Private Employment 404,326 -4.1% 123,376,557 -1.55		Location Quotient	0.05		n/a		
Bioscience-Related Distribution		Average Annual Wage	\$58,294	26.6%	\$91,989	13.1%	
Related Distribution Location Quotient 0.74 n/a Average Annual Wage \$116,700 21.6% \$121,606 15.00 Medical Devices and Equipment Establishments 50 10.6% 10,268 17.43 Medical Devices and Equipment Employment 2,022 38.2% 398,847 5.50 Location Quotient 1.55 n/a n/a 1.75 n/a Average Annual Wage \$67,563 -12.5% \$98,481 8.75 34.75 Establishments 26 38.7% 5,973 34.75 34.75 Employment 1,320 10.4% 344,839 11.95 Location Quotient 1.17 n/a 1.03 Research, Testing, and Medical Employment 959 19.9% 719,856 19.35 Medical Laboratories Location Quotient 0.41 n/a 1.03 Average Annual Wage \$93,228 35.9% \$147,396 22.05 Total Bioscience Industry Employment 5,773 24.6% <td rowspan="4">Related</td> <td>Establishments</td> <td>358</td> <td>41.1%</td> <td>62,697</td> <td>14.7%</td>	Related	Establishments	358	41.1%	62,697	14.7%	
Distribution		Employment	1,459	24.6%	602,589	6.6%	
Establishments 50 10.6% 10,268 17.45		Location Quotient	0.74		n/a		
Medical Devices and Equipment Employment 2,022 38.2% 398,847 5.53 Location Quotient 1.55 n/a n/a 8.75 Average Annual Wage \$67,563 -12.5% \$98,481 8.75 Establishments 26 38.7% 5,973 34.75 Employment 1,320 10.4% 344,839 11.95 Location Quotient 1.17 n/a n/a Average Annual Wage \$116,635 -0.8% \$126,153 10.33 Research, Testing, and Medical Laboratories Employment 959 19.9% 719,856 19.33 Average Annual Wage \$93,228 35.9% \$147,396 22.09 Total Bioscience Industry Employment 5,773 24.6% 2,135,704 11.09 Average Annual Wage \$95,450 5.0% \$125,750 16.49 Establishments 42,096 12.9% 10,665,643 9.35 Total Private Employment 404,326 -4.1% 123,376,557 -1.50 <		Average Annual Wage	\$116,700	21.6%	\$121,606	15.0%	
Average Annual Wage \$67,563 -12.5% \$98,481 8.75		Establishments	50	10.6%	10,268	17.4%	
Average Annual Wage \$67,563 -12.5% \$98,481 8.75 Establishments 26 38.7% 5,973 34.75 Employment 1,320 10.4% 344,839 11.95 Location Quotient 1.17 n/a Average Annual Wage \$116,635 -0.8% \$126,153 10.35 Research, Testing, and Medical Laboratories		Employment	2,022	38.2%	398,847	5.5%	
Establishments 26 38.7% 5,973 34.75		Location Quotient	1.55		n/a		
Pharmaceuticals Employment 1,320 10.4% 344,839 11.95 Location Quotient 1.17 n/a n/a <td>Average Annual Wage</td> <td>\$67,563</td> <td>-12.5%</td> <td>\$98,481</td> <td>8.7%</td>		Average Annual Wage	\$67,563	-12.5%	\$98,481	8.7%	
Pharmaceuticals Location Quotient 1.17 n/a Average Annual Wage \$116,635 -0.8% \$126,153 10.33 Research, Testing, and Medical Laboratories Employment 959 19.9% 719,856 19.35 Average Annual Wage \$93,228 35.9% \$147,396 22.05 Total Bioscience Industry Employment 5,773 24.6% 2,135,704 11.05 Average Annual Wage \$95,450 5.0% \$125,750 16.45 Average Annual Wage \$95,450 5.0% \$125,750 16.45 Total Private Employment 404,326 -4.1% 123,376,557 -1.55	Pharmaceuticals	Establishments	26	38.7%	5,973	34.7%	
Location Quotient 1.17		Employment	1,320	10.4%	344,839	11.9%	
Establishments 231 76.6% 46,503 34.58		Location Quotient	1.17		n/a		
Research, Testing, and Medical Laboratories Employment 959 19.9% 719,856 19.35 Average Annual Wage \$93,228 35.9% \$147,396 22.05 Total Bioscience Industry Employment 5,773 24.6% 2,135,704 11.05 Average Annual Wage \$95,450 5.0% \$125,750 16.45 Establishments 42,096 12.9% 10,665,643 9.35 Total Private Employment 404,326 -4.1% 123,376,557 -1.55		Average Annual Wage	\$116,635	-0.8%	\$126,153	10.3%	
Testing, and Medical Laboratories Location Quotient 959 19.9% 719,856 19.35 Average Annual Wage \$93,228 35.9% \$147,396 22.05 Establishments 666 48.2% 127,389 22.35 Total Bioscience Industry Employment 5,773 24.6% 2,135,704 11.05 Average Annual Wage \$95,450 5.0% \$125,750 16.45 Establishments 42,096 12.9% 10,665,643 9.35 Total Private Employment 404,326 -4.1% 123,376,557 -1.55		Establishments	231	76.6%	46,503	34.5%	
Medical Laboratories Location Quotient 0.41 n/a Average Annual Wage \$93,228 35.9% \$147,396 22.09 Establishments 666 48.2% 127,389 22.39 Total Bioscience Industry Employment 5,773 24.6% 2,135,704 11.09 Average Annual Wage \$95,450 5.0% \$125,750 16.49 Establishments 42,096 12.9% 10,665,643 9.39 Total Private Employment 404,326 -4.1% 123,376,557 -1.59	Testing, and Medical	Employment	959	19.9%	719,856	19.3%	
Average Annual Wage \$93,228 \$35.9% \$147,396 22.05 Establishments 666 48.2% 127,389 22.39 Total Bioscience Industry		Location Quotient	0.41		n/a		
Total Bioscience Industry Employment 5,773 24.6% 2,135,704 11.05 Average Annual Wage \$95,450 5.0% \$125,750 16.45 Establishments 42,096 12.9% 10,665,643 9.35 Total Private Employment 404,326 -4.1% 123,376,557 -1.55		Average Annual Wage	\$93,228	35.9%	\$147,396	22.0%	
Location Quotient 0.82 n/a Average Annual Wage \$95,450 5.0% \$125,750 16.49 Establishments 42,096 12.9% 10,665,643 9.39 Total Private Employment 404,326 -4.1% 123,376,557 -1.59 Contrary Contrar		Establishments	666	48.2%	127,389	22.3%	
Average Annual Wage \$95,450 5.0% \$125,750 16.49 Establishments 42,096 12.9% 10,665,643 9.39 Total Private Employment 404,326 -4.1% 123,376,557 -1.59		Employment	5,773	24.6%	2,135,704	11.0%	
Establishments 42,096 12.9% 10,665,643 9.39 Total Private Employment 404,326 -4.1% 123,376,557 -1.59		Location Quotient	0.82		n/a		
Total Private Employment 404,326 -4.1% 123,376,557 -1.5%		Average Annual Wage	\$95,450	5.0%	\$125,750	16.4%	
Today Control		Establishments	42,096	12.9%	10,665,643	9.3%	
Sector Location Quotient 1.00 n/a		Employment	404,326	-4.1%	123,376,557	-1.5%	
		Location Quotient	1.00		n/a		
Average Annual Wage \$60,663 17.3% \$67,826 18.99		Average Annual Wage	\$60,663	17.3%	\$67,826	18.9%	

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

Bioscience Research in Rhode Island

Bioscience Academic R&D Expenditures

\$ Millions, FY 2020



NIH Awards

\$ Millions, FY 2018-2021



Bioscience Venture Capital in Rhode Island

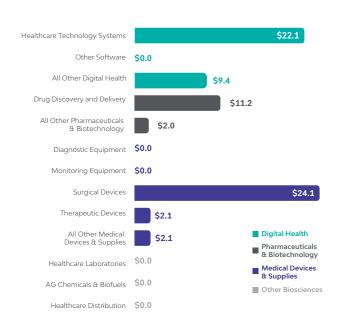
Bioscience-Related Venture Capital Investments

\$ Millions, 2018-2021



Bioscience-Related Venture Capital Investments by Segment

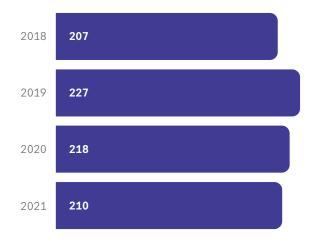
\$ Millions, 2018-2021



Bioscience Patents in Rhode Island

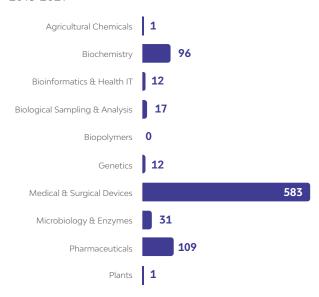
Bioscience-Related U.S. Patents

2018-2021



Bioscience-Related U.S. Patents by Segment

2018-2021



Source Notes

Employment, Establishments and Wages: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW), enhanced by Lightcast (Datarun 2022.3).

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: PitchBook Data, Inc.

Patents: U.S. Patent & Trademark Office data from Clarivate Analytics' Derwent Innovation patent analysis database.

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



