



Life Sciences

Maryland is a premier location for life sciences companies. With one of the nation’s largest clusters, a community of over 2,700 life science businesses have unparalleled proximity to leading federal institutions such as the National Institutes of Health, National Institute of Standards and Technology and the Food and Drug Administration. More than 90 percent of the life sciences companies and strategic partners are located within one hour of each other. Companies can also take advantage of two-hour access to 80 percent of the U.S. pharmaceutical industry. The state is a major recipient of National Institutes of Health research and development dollars, and Johns Hopkins University is first in the nation in total NIH awards. The state’s life sciences establishments generate \$18.6 billion in economic activity, and are awarded over a billion dollars in federal contracts annually.

Major Life Sciences Employers in Maryland

Employer	Employment	Product / Service
National Institutes of Health	17,940	HQ / Medical research
MedImmune/Astra Zeneca	3,020	Biologics R&D and manufacturing
Leidos Biomedical Research	2,100	Contract research
Westat	2,000	Contract research and statistical surveys
BD Diagnostics	1,580	Medical devices
GlaxoSmithKline (GSK)	950	Biologics manufacturing
Thermo Fisher Scientific	565	Biological products
The Emmes Corporation	525	Clinical research
Terumo Medical Products	500	Medical products / R&D
Lonza Walkersville	465	Supplier of stem cells and tissue culture products
U.S. Pharmacopeia	450	Standards-setting authority for medicines and healthcare products
Pharmaceutics International (PII)	450	Pharmaceutical contract manufacturing
Qiagen Sciences	410	Diagnostic substance manufacturing
BioReliance	400	Biologics testing
Jubilant Cadista	360	Generic pharmaceuticals
Novavax	260	Biological product manufacturing

Note: Employment counts are rounded.
Source: Maryland Department of Commerce, April 2018.

Selected Rankings

- Maryland has the highest concentration of employed doctoral scientist and engineers. The state ranks first in employed PhD scientist and engineers per 100,000 employed workers, with first place rankings for total PhD scientists, as well as PhDs in biological sciences and health.
- Johns Hopkins University ranks first among U.S. colleges and universities in total National Institutes of Health awards, including grants and contracts for research, development, training and fellowships.
- According to the U.S. News Best Colleges survey, Johns Hopkins University holds the following rankings:
 - Second among top research medical schools, with top five rankings in multiple specialties
 - First in both undergraduate and graduate biomedical engineering

- Sixth in graduate biology, with top five rankings in cell biology and neuroscience
- First in graduate nursing with top five rankings in multiple specialties
- The Maryland/Virginia/Washington DC BioHealth Capital Region places fourth in a ranking of the top ten U.S. biopharma clusters based on patents, NIH grant funding, venture capital, lab space and number of jobs.

Industry Snapshot – Life Sciences in Maryland

- Employment (2018) – 41,290 private sector jobs (44,260 including public sector)
Leading subsectors:
 - Research and development – 18,560 jobs
 - Pharmaceutical and medicine manufacturing – 8,780 jobs
 - Testing, medical and diagnostic laboratories – 8,420 jobs
- Business establishments (2018) – 2,700
- Total wages (2018) – \$4.90 billion
- Average salary (2018) – \$110,690
- Gross state product (2017) – \$18.63 billion
- Federal procurement (FY2018) – \$1.05 billion

Sources: Maryland Department of Labor; U.S. Bureau of Economic Analysis; U.S. Census Bureau.

Employment by Occupation

Maryland Employment – May 2018

Selected Occupations	Employment	Location Quotient*	
		Index	Rank
Biochemists and biophysicists	970	1.83	5
Biological scientists, all other	4,100	5.19	1
Biological technicians	3,520	2.45	3
Biomedical engineers	670	1.91	4
Chemists	3,100	1.98	3
Clinical laboratory technologists and technicians	7,550	1.27	7
Epidemiologists	310	2.40	3
Life scientists, all other	360	2.87	5
Medical scientists, except epidemiologists	5,010	2.24	2
Microbiologists	1,820	4.91	1
Physical scientists, all other	1,690	5.25	2

* Location Quotient indicates concentration of the occupation in Maryland, with national average equal to 1.0.
Rank indicates Maryland's rank among the 50 states.

Source: U.S. Bureau of Labor Statistics, Occupational Employment Statistics.

Assets & Resources

- **BioHealth Innovation** – Private-public partnership acting as a regional innovation intermediary facilitating technology transfer of research in federal labs, universities, and biohealth companies.
- **National Institutes of Health** – Headquarters for federal biomedical and health-related research, with over 17,000 employees in Bethesda, Rockville, Frederick and Baltimore.
- **Food and Drug Administration** – Headquarters for federal food and drug regulation, with nearly 8,500 employees in Maryland.
- **Institute for Bioscience and Biotechnology Research** – Joint research enterprise to enhance collaboration among University System of Maryland institutions and NIST.

- **Battelle Eastern Science and Technology Center** – Non-profit research center in Harford County devoted to biological and chemical sciences and technology research.
- **J. Craig Venter Institute** – Genomics research institute located in Rockville.
- **Biomedical Research Institute** – Not-for-profit research institute, with a major emphasis on basic research in schistosomiasis.
- **Walter Reed National Military Medical Center** – Medical research and health care for the uniformed services.
- **U.S. Army Medical Research Institute of Infectious Diseases** – The Army’s main institution and facility for infectious disease research that may have defensive applications against biological warfare.
- **National Biodefense Analysis and Countermeasures Center** – Federally funded R&D center for laboratory-based threat assessment and bioforensics.
- **Science + Technology Park at Johns Hopkins** – Research and biotechnology park adjacent to the Johns Hopkins Medical Campus in East Baltimore.
- **University of Maryland BioPark** – University-associated research park in downtown Baltimore that accelerates biotechnology commercialization.

New & Expanding Businesses

- **Kite Pharma** (Frederick County) – California-based biopharmaceutical company that develops innovative cancer immunotherapies plans to open a new biologics manufacturing facility and create 810 new jobs by 2025.
- **Viela Bio** (Montgomery County) – Newly-formed spin-out of MedImmune, focusing on potential autoimmune and inflammatory medicines from MedImmune’s biologics portfolio, plans to create 100 new jobs in Gaithersburg.
- **Supernus Pharmaceuticals** (Montgomery County) – Company is relocating its headquarters, R&D and pilot-scale manufacturing operations to Gaithersburg, potentially adding up to 160 new jobs.
- **Thermo Fisher Scientific** (Frederick County) – Life sciences research company recently expanded by 190,000 square feet housing the new Cry-Innovation Center and the National Cancer Institute Central Repository for Clinical Trials.
- **Applied Biomimetic** (Montgomery County) – Leader in primary research of membrane proteins recently opened its new corporate headquarters and R&D operation, with plans for more than 30 full-time workers.
- **RegenxBio** (Montgomery County) – Leading clinical-stage biotech company specializing in gene therapy announced plans for a new headquarters and R&D facility, expecting to double its 150+ workforce within five years.
- **Indivumed** (Frederick County) – International bioscience company that develops individualized cancer therapies has established U.S. headquarters in Frederick, creating 25 jobs.
- **Paragon Bioservices** (Anne Arundel County) – Baltimore-based contract drug maker will expand with a new 150,000-square-foot manufacturing facility for gene therapies near BWI Marshall Airport that will employ more than 200 people.
- **Altimune** (Montgomery County) – Clinical-stage immunotherapeutics biotechnology company relocated employees to a new 14,000-square-foot R&D facility in Gaithersburg, with plans to add 45 new jobs over the next four years.
- **Vitreon America** (Baltimore City) – This botanical research company is relocating its headquarters from Northern Virginia to Baltimore City and anticipates creating 200 jobs over the next five years and establishing a laboratory, research center and grow zone in 200,000 square feet of space.

Programs & Incentives

- **Maryland Biotechnology Investment Incentive Tax Credit** – Income tax credits equal to 50 percent of an eligible investment for investors in qualified Maryland biotechnology companies, up to \$250,000.
- **Maryland Venture Fund** – State funded seed and early-stage equity fund.

- **Maryland Technology Development Corporation** – Facilitates technology transfer from academic and federal labs into the private sector with seed funding, technical assistance and entrepreneurial support programs.
- **Research & Development Tax Credit** – Credit for R&D expenses for certified businesses.

Contact for assistance:

Ernesto Chanona

Manager, Business and Innovation Development, BioHealth and Life Sciences

(410) 767-3213 | ernesto.chanona@maryland.gov