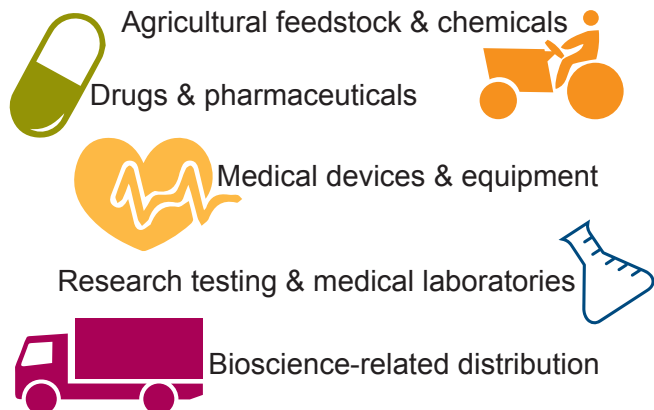


What can Biotechnology do for New Mexico?

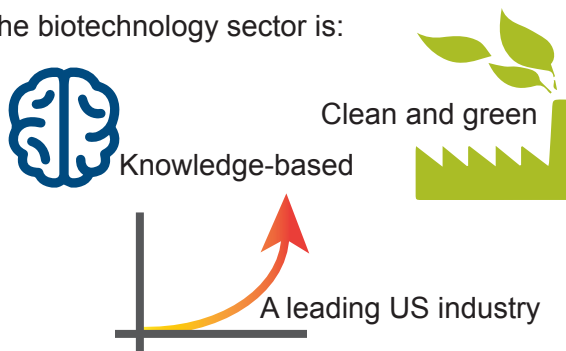
What is Biotechnology?

Five industries make up the biotechnology sector:



Why Biotechnology?

The biotechnology sector is:



And biotechnology harnesses our universities' *workforce, research, and intellectual property* to benefit New Mexico's economy.

Who Will Benefit?

The biotechnology sector creates high-paying jobs for more than just people with advanced degrees (PhDs).

Top Job Opportunities for Biotechnology Technicians & Operators	Median Wage	Minimum Education Level
Sales Reps., Whsle. & Mfg., Tech. & Scientific Products	\$36.84	Bachelor's degree
Inspectors, Testers, Sorters	\$17.71	Moderate-term OJT
Medical and Clinical Laboratory Technicians	\$19.62	Associate degree
Natural Sciences Managers	\$68.74	Bachelor's or higher
Biological Technicians	\$22.27	Bachelor's degree
Chemical Technicians	\$21.08	Associate degree
Mixing & Blending Machine Operators	\$15.57	Moderate-term OJT
Industrial Engineers	\$44.23	Bachelor's degree
First-line Supervisors of Production Workers	\$25.34	Related work experience
Life, Physical and Social Science Technicians	\$23.73	Associate degree

In addition, other states estimate that for every 100 people directly employed by the life sciences industry, nearly another 250 are indirectly employed through such industries as professional services, suppliers, construction, and other fields.

Source: *Economic & Workforce Development (2013) "Sector Profile: Biotechnology."*

What is Needed?

The biotechnology industry is a strategic enterprise sector that can be vital to the state's economic strategy and well-being by creating high-paying jobs and bolstering the state's economy. However, governmental involvement is necessary to support technology policy, to prevent underinvestment in research and development, and to support financial incentives and legislation for biotechnology industries in New Mexico.

Leveraging New Mexico's strengths in bioscience and biotechnology will allow us to become a vibrant and internationally recognized bioscience cluster. To do so, we are working to convene a statewide committee to study the impact of the biotechnology industry on New Mexico's state economy and ways to help promote, attract, support and sustain the biotechnology industry in the state.

Contact: Richard S Larson, MD, PhD
Executive Vice Chancellor
Vice Chancellor for Research

RLarson@salud.unm.edu



BIOSCIENCE IN NEW MEXICO

Industry Subsector	New Mexico		United States	
	2012	Change 2007 – 2012	2012	Change 2007 – 2012
Agricultural Feedstock and Chemicals				
Establishments	10	25.0%	1,772	5.2%
Employment	75	-11.1%	76,404	-1.0%
Location Quotient	0.18		n/a	
Direct-Effect Employment Multiplier	11.5		18.1	
Total Employment Impact	861		1,382,637	
Average Annual Wage	\$41,148	-13.8%	\$75,828	14.2%
Bioscience-Related Distribution				
Establishments	361	7.2%	36,793	1.4%
Employment	1,475	-19.2%	442,016	-3.9%
Location Quotient	0.61		n/a	
Direct-Effect Employment Multiplier	2.3		2.7	
Total Employment Impact	3,363		1,199,015	
Average Annual Wage	\$71,819	22.9%	\$85,188	11.5%
Drugs and Pharmaceuticals				
Establishments	15	36.4%	3,057	12.0%
Employment	535	-18.6%	284,331	-10.9%
Location Quotient	0.35		n/a	
Direct-Effect Employment Multiplier	6.7		9.9	
Total Employment Impact	3,560		2,673,265	
Average Annual Wage	\$49,896	-3.1%	\$106,576	13.9%
Medical Devices and Equipment				
Establishments	33	13.8%	7,235	12.0%
Employment	702	-15.2%	349,432	1.4%
Location Quotient	0.37		n/a	
Direct-Effect Employment Multiplier	2.9		3.9	
Total Employment Impact	2,038		1,318,459	
Average Annual Wage	\$41,886	-17.7%	\$75,695	10.7%
Research, Testing and Medical Laboratories				
Establishments	204	60.6%	24,231	31.0%
Employment	5,517	14.9%	467,563	9.7%
Location Quotient	2.18		n/a	
Direct-Effect Employment Multiplier	2.4		2.7	
Total Employment Impact	13,355		1,284,196	
Average Annual Wage	\$73,016	5.5%	\$91,248	15.9%
Total Bioscience Industry				
Establishments	622	21.7%	73,088	11.4%
Employment	8,304	1.3%	1,619,746	-0.4%
Location Quotient	0.95		n/a	
Direct-Effect Employment Multiplier	3.2		4.9	
Total Employment Impact	26,457		7,857,572	
Average Annual Wage	\$68,395	8.0%	\$88,202	12.8%
Total Private Sector				
Establishments	51,747	3.3%	8,699,564	-0.5%
Employment	602,781	-5.4%	111,137,206	-3.1%
Average Annual Wage	\$39,529	12.3%	\$49,130	11.1%

Adapted from: Batelle/BIO (2014) "Batelle/BIO State Biosciences Jobs, Investment and Innovation 2014 State Profile: New Mexico."
https://www.bio.org/sites/default/files/SP_New_Mexico.pdf

How GRA drives an annual impact of \$825,000,000 on Georgia's economy

EXAMPLE

Ami Klin

One of the world's top experts in autism
GRA helped recruit from Yale in 2011



\$30M
directly spent by GRA to recruit talent, equip laboratories, seed promising start-up companies and support research* that promotes economic growth.

*based on average annual dollar amounts FY07 to FY12 reported in FY14 dollars.

EXAMPLE

Damballa

GRA provided early seed \$ for this fast-growing computer security company



EXAMPLE

\$2.4M

Federal \$ awarded to Georgia Tech to find ways to capture carbon emissions using less energy



GRA's spending is leveraged by an additional

\$395M

in direct spending by industry, universities, foundations and the federal government — all of which advances GRA's programs.

EXAMPLE

\$11M

Venture \$ from private investors into GRA Ventures-supported MedShape, a med tech startup



EXAMPLE

Construction

Dollars flow when firms building labs and facilities buy goods / services from suppliers, who then do the same from their suppliers



Another

\$400M

in indirect spending ripples across all sectors of Georgia's economy

EXAMPLE

Stores

Economy benefits from retailers & vendors buying supplies, hiring workers to meet consumer needs of university, industry employees



EXAMPLE

124 professionals

Employed by Internet security firm Lancope, a GRA Ventures company

GRA's annual economic impact

\$825M

in the State of Georgia

including **6,400** jobs created or supported – every year
which yield **\$319,000,000** in total earnings – every year

EXAMPLE

Spending

Employees of start-ups buy goods, services, adding their own impact to the Georgia economy

All data is based on average spending for FY2007-12 or 2007-11, using the most current information available at time of analysis, and is reported in inflation-adjusted FY 2014 dollars. Data collection was conducted by GRA with analysis provided by EMSI (Economic Modeling Specialists, Intl.) and Cross Channel Initiatives.

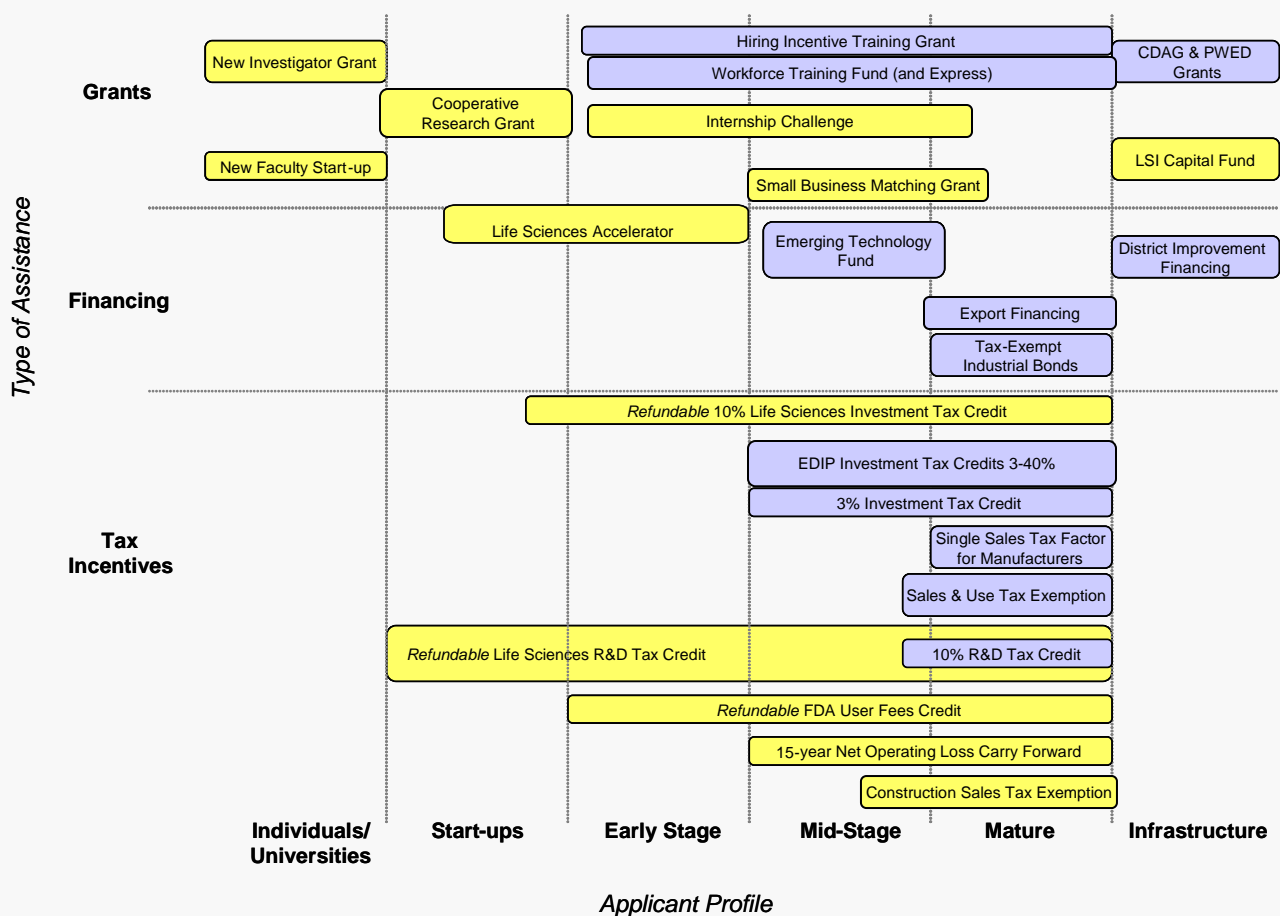


Georgia Research Alliance

Massachusetts Incentives

Massachusetts is the home of a life sciences cluster that is second to none. Complementing its outstanding biopharmaceutical and medical science companies, are more than 60 academic institutions that offer advanced degrees in life sciences, five of the top eight NIH-funded hospitals in the nation, and a workforce that offers unparalleled skills and productivity to employers. Massachusetts supports its innovative economy through an array of job creation incentive programs – including the landmark, \$1 billion Massachusetts Life Sciences Initiative.

Massachusetts Life Sciences Incentives Matrix*



* The matrix includes a broad sampling of state business assistance programs, but it is not a comprehensive listing.



Indicates programs that are available through the \$1 billion Massachusetts Life Sciences Initiative. The programs are administered by a quasi-public agency, the Massachusetts Life Sciences Center.



Indicates programs that are administered by a variety of state and quasi-public agencies such as MassDevelopment, Massachusetts Office of Business Development, and Division of Career Services. Some tax treatments noted are available "by right" and require no application.

What now? Access our in-house economic development professionals, who can assist you navigate the many state agencies and programs available. MassBio membership allows you the opportunity to have a trusted industry advocate, with comprehensive knowledge of the Massachusetts economic development landscape, assist you as you begin to take advantage of the many development resources potentially available to you.

For additional guidance, contact MassBio at (617) 674-5130. www.massbio.org

Massachusetts Life Sciences Initiative

Administered by the Massachusetts Life Sciences Center (MLSC)

Cooperative Research Grant - Supports industry-sponsored research at universities and facilitates scientific discoveries that lead to medical applications with grants of \$250,000 per year for up to three years, in a 1:1 match with its industry partner.

New Faculty Startup Grant - Targets investments to attract and retain nationally prominent faculty at Massachusetts' colleges and universities with grants of \$250,000 per year for up to three years, in a 1:1 match with the academic institution.

New Investigator Grant - Spurring innovative new research and advancing the careers of new investigators who are working on cutting-edge research at Massachusetts academic research centers with grants of \$100,000 per year for up to three years.

Life Sciences Accelerator - Financing, up to \$750,000, for early-stage companies to help leverage additional sources of capital.

Small Business Matching Grant (SMBG) - Grants provide "matching" support—capped at \$500,000 per company—to Phase II or Post Phase II SBIR or STTR grants already received by applicant companies.

Life Sciences Tax Incentive Program – Companies that are growing jobs, investments, and revenue are prospects for the nine distinct tax incentives of the LSI. To receive benefits, companies must apply to the MLSC to become a Certified Life Science Company. The incentives include:

- Refundable 10% Investment Tax Credit
- Extension of Net Operating Losses to 15 years
- Deduction for Orphan Drug Clinical Testing
- Refundable Research Tax Credit
- Refundable FDA User fee Credit
- Elimination of Sales Factor Throwback
- Special Sales Tax Exemption
- Life Sciences Research Credit
- Construction Sales Tax Exemption

General Massachusetts Incentives

Workforce Training Fund (WTF) - Provides grants up to \$100,000 to upgrade skills of new or incumbent workers. The **Hiring Incentive Training Grant** provides up to \$2,000 in training funds for hiring eligible unemployed workers.

Investment Tax Credit (ITC) – A 3% ITC for investments in tangible depreciable assets to all state *manufacturers*. Massachusetts also provides a **Sales & Use Tax Exemption** for manufacturers and companies engaged in R&D.

Economic Development Incentive Program - Offers incentives in several ways:

- In municipalities that are Economic Target Areas, expansions can be assisted with locally-approved TIF agreements which are exemptions on the value added to a property in the expansion and a state-approved 3-5% Investment Tax Credit,
- For projects that result in 100 or more new jobs (Enhanced Expansion Projects), companies can be approved by the state for the Investment Tax Credits of up to 10%, without the need for any local approvals,
- For projects in select "Gateway Communities" that create 100+ jobs, companies can pursue both a local TIF agreement and state-approved Investment Tax Credits of up to 10%. Manufacturing Retention projects can receive up to a 40%.

Research and Development Tax Credit - Costs that qualify for the Federal R&D tax credit are eligible for a 10% Massachusetts R&D Tax Credit. A 15% R&D Tax Credit is available for costs related to university-based research.

Single Sales Tax Treatment - Provides a significant, relative advantage to Massachusetts manufacturers with multi-state operations. It apportions corporate income based solely on the ratio of in-state sales to total sales. Other states often use three factors – including wages and property – and double or triple weight in-state sales.

Financing – MassDevelopment, the state's economic development bank, provides an array of financing tools to assist growing companies. The Emerging Technology Fund can provide up to \$2.5 million in low-cost financing to eligible technology-based firms. MassDevelopment provides export assistance loans, equipment loans, and guarantees to growing manufacturers and is the state's purveyor of Tax-Exempt Industrial Development Bonds.

Infrastructure Grants - Municipalities can seek grant funds of up to \$2 million to assist with the costs of roadway, water, and sewer projects associated with job creation projects through the CDAG and PWED grants.



Locate & Grow

[Locate & Grow](#)[The Massachusetts Supercluster](#)[Incentives](#)[Real Estate](#)[Biopharma Manufacturing in MA](#)[The MA CRO CMO Cluster Initiative](#)[Incubators in MA](#)[BioReady® Communities](#)[Platinum Land Sites](#)[Gold Land Sites](#)

BioReady® Communities

Massachusetts is BioReady®!

Biotech zoned science parks, streamlined permitting, robust infrastructure, pre-permitted biotech sites!

Today, the need to move innovation rapidly from the computer screen to the laboratory to the manufacturing plant is more important than ever.

Because of the state's rich history in biotechnology, many of its cities and towns, with the support of state government, have increasingly adopted local policies that greatly ease the pathway for renovation or new construction of biotech laboratory and manufacturing facilities.

Expedited permitting policies, by-right zoning, supportive public infrastructure projects, pre-permitted biotech sites, planned area developments are examples of the increasingly supportive public policies in Massachusetts municipalities.

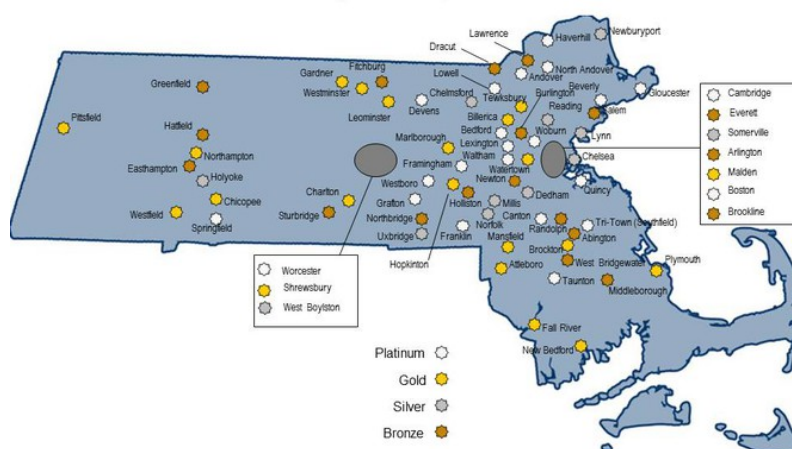
The MassBio BioReady® Community Campaign recognizes this supportive atmosphere. There are currently 76 BioReady® Communities across the Commonwealth.

About MassBio

MassBio is a not-for-profit organization committed to advancing the development of critical new science, technology and medicines that benefit people worldwide.

Founded in 1985, MassBio represents over 600 biotechnology companies, academic institutions, research hospitals, and service organizations involved in life sciences and health care, and works to advance policy and promote education, while providing member programs and events, industry information, and services.

(March 2014)



MassBio and partner organizations began the BioReady® Communities Campaign in early 2008. MassBio conducted seven regional BioReady® Community Seminars throughout the state for the purpose of providing background to municipal officials about the biotech industry and guidance on how to position a municipality as a destination for biotech laboratory and manufacturing facilities.

The topics presented in the seminars included a background on the biotech industry, its economic impact, facility requirements of biotech laboratory and

Latest Updates

January 26, 2015
[MassBio Office Closed 1/27](#)

January 23, 2015
[Supporting Increased NIH Funding](#)

January 7, 2015
[Bio-Pact Establishes Corporate HQ in Massachusetts](#)

December 30, 2014
[FREE DOT Hazmat Training for MassBio Members \(Webex\)](#)

December 9, 2014
[Q & A with Dr. David Meeker, President and Chief Executive Officer of Genzyme](#)

manufacturing space, bio-safety, and municipal approvals practices that are conducive to supporting biotech opportunities.

A great source for municipal officials and residents who want to learn more about biotechnology facilities is the [Biotechnology Community Guide](#) available for download.

View a recent BioReady™ Communities Seminar presentation here: [South Shore - Canal District presentation](#)

MassBio Massachusetts BioReady® Community Ratings

As part of the BioReady® Campaign, MassBio has developed ratings for municipalities who fill out a survey with information on their zoning practices and infrastructure capacity. Our focus with these ratings is to help biotechnology

companies find the most favorable destinations in the state *and* to enable the state and its cities and towns to effectively tell their story to the biotechnology industry. BioReady®-rated cities and towns have made a commitment to biotechnology.



If you represent a community that has not yet been rated, please fill out [this survey](#) to achieve a rating.

Bronze



Municipalities at this level feature:

- Municipal water and sewer available in commercial and industrial areas.
- Zoning allows for biotech laboratory and manufacturing uses by *special permit*.
- Identified point of contact in town/city hall to assist biotech projects.

Abington, Arlington, Brookline, Burlington, Dracut, Easthampton, Everett, Fitchburg, Greenfield, Hatfield, Holliston, Lawrence, Middleborough, Newton, Northbridge, Randolph, Salem, Sturbridge, West Bridgewater

Silver



Municipalities at this level feature:

- Bronze Criteria *plus*
- Municipality allows biotech laboratory and manufacturing uses by right.
- Has identified buildings and/or land sites for biotechnology uses in municipal plans.

AND

- Municipality convenes site plan review meetings, bringing together all pertinent departments, to provide an overview of the local approvals process for significant commercial and industrial projects.
- Has land sites and/or buildings included in BioSites inventory at www.massachusettsitefinder.com

OR

- Community has identified Priority Development Sites per Chapter 43D
- Municipality has a site designated as a Massachusetts Growth District

Chelsea, Chelmsford, Dedham, Holyoke, Lynn, Millis, Newburyport, Norfolk, Peabody, Reading, Somerville, Uxbridge, West Boylston.

Gold



Municipalities at this level feature:

- Silver Criteria *plus*
- Municipality has sites or buildings pre-permitted for biotechnology laboratory or manufacturing use, *OR*
- Municipality has existing buildings in which biotech laboratory or manufacturing activities are taking place.

Attleboro, Billerica, Brockton, Charlton, Chicopee, Fall River, Gardner, Hopkinton, Leominster, Malden, Mansfield, Northampton, Pittsfield, Plymouth, Shrewsbury, Tewksbury, Watertown, Westfield, Westminster

Platinum



Municipalities at this level feature:

- Gold Criteria *plus*
- Municipality's Board of Health has adopted the National Institutes of Health guidelines on rDNA activity as part of its regulations.
- Municipality includes a building or buildings that are already permitted for biotech uses and have 20,000 square feet or more of available space for biotech uses.

OR

- Municipality has a shovel-ready pre-permitted land site with completed MEPA review and municipal water and sewer capacity to meet additional demand.

Andover, Bedford, Beverly, Boston, Cambridge, Canton, Devens, Framingham, Franklin, Gloucester, Grafton, Haverhill, Lexington, Lowell, Marlborough, New Bedford, North Andover, Quincy, Southfield (Tri-Town), Springfield, Taunton, Waltham, Westborough, Woburn, Worcester

View available sites in the above-mentioned towns at
www.massachusettsitefinder.com.