BIOTECHNOLOGY

Biotechnology Funding[1]
(Dollars in Millions)

	FY 2024 Current Plan	FY 2025 (TBD)	FY 2026 Request
BIO	$136.50		$130.00
CISE	6.27		2.19
EDU	9.00		2.00
ENG	81.30		47.00
GEO Programs	7.30		13.00
GEO: OPP	1.23		0.20
MPS	61.49		15.00
SBE	1.00		2.50
TIP	48.64		36.70
IA	1.00		-
Total	**$353.73**		**$248.59**

[1] Funding displayed may have overlap with other topics and programs.

NSF investments in biotechnology accelerate scientific discovery and enable the use of living things to create goods and services that benefit society. Whether the focus is lifesaving medicines, previously offshored supply chain chemicals, or self-healing materials, advances built on the discovery, use, and alteration of living things and their components will benefit the U.S. economy and transform fields as diverse as medicine, manufacturing, agriculture, and defense. Biotechnology R&D, along with a highly trained domestic biotechnology workforce, will be essential to power AI-driven innovations and growth in the U.S. biotechnology industry, both of which will enhance America's economic prosperity.

In FY 2026, NSF biotechnology funding will support these priorities:

National Security: Thanks to advances in biological sciences and AI, biotechnology is poised to be an engine of innovation for decades. However, foreign competitors like China have continued to make significant investments in biotechnology innovation that threaten the U.S.' ability to compete in the global bioeconomy.[1] To safeguard the U.S. economy and biosecurity, NSF will invest in biotechnology R&D to ensure that the U.S. outcompetes and out-innovates China and other adversarial nations. NSF will do this through investments in core programs in life sciences, biotechnology, bioengineering, and biomanufacturing that span all Directorates at NSF and all manufacturing readiness levels from discovery to translation. NSF will also partner with like-minded nations in priority areas such as biodiversity, biofoundries, synthetic biology, and quantum sensing in biology.

Defense: NSF biotechnology investments will support defense applications via innovations in adaptive and self-healing materials; advances in distributed, on-demand, and remote biomanufacturing; and sentinel organisms that sense and respond to threats in the environment. Many biotechnology innovations developed for defense can also have space exploration and commercial applications.

[1]www.biotech.senate.gov/final-report/chapters/executive-summary/

Reshoring Supply Chain: Between 75 and 90 percent of U.S. drug manufacturing relies on active pharmaceutical ingredients (APIs) manufactured outside the U.S., causing significant supply chain vulnerabilities. NSF investments in biotechnology and biomanufacturing of critical supply chain biochemical and biologic APIs will address National priorities for increased domestic production of critical medicines.[2] NSF investments will also explore the untapped potential in developing biotechnological routes to critical mineral recovery, either from recycled waste or from dilute deposits, such as the offshore deposits prioritized by the Administration.[3] This supply chain reshoring from NSF supported biotechnology advances will contribute to job creation, economic growth, and security.

Economic Prosperity: U.S. economic prosperity is dependent upon innovations that lead to new technologies and industries. Often, those innovations are the result of NSF's discovery-driven research. Targeted programs in biotechnology are paving the way for new medicines, enhanced food production, novel material development, and new, unorthodox technologies such as biocomputing, information storage, and electricity storage. NSF programs that explore nature's biodiversity are uncovering a treasure trove of innovations that could lead to novel biotechnology-based solutions in all sectors of the U.S. economy. NSF's continued investments in physical infrastructure, discovery life sciences research, and workforce development are essential elements in a bioeconomy ecosystem that increasingly promotes collaboration between federal investments and the private sector, as facilitated by NSF technology transfer programs.

AI Ready Biological Data to Fuel Innovation: The earliest products of AI and biotechnology to reach the market have been designed proteins, a feat enabled by decades of investment of carefully standardized and curated protein structure data archived in the Protein Data Bank.[4] To achieve the promise of AI enabled design in life sciences, there needs to be robust investment in AI ready biological data. NSF investments in AI-ready biological data include synthesis centers, biofoundries and programmable cloud labs, NEON, and core life sciences programs that enable the collection of data on proteins, cells, and organisms that span the diversity of life. These investments will also enable innovators to find biological solutions that leverage innovations from evolution. NSF's partnership with NIST on bioeconomy standards also supports the development of AI ready biological data. A biotechnology-AI prize, administered by NSF with partners in philanthropy and the private sector, will address the presidential priority of AI training for everyone.[5] Such training will engage young people, improve educational outcomes and bioliteracy, and provide the next generation with the tools to become part of the biotechnology workforce.

Workforce: Growth in U.S. biotechnology industries will require expansion of a skilled biotechnology workforce. NSF will invest in workforce training at all levels including community colleges, experiential learning, research experiences for undergraduates and teachers, and support for graduate and postdoctoral student training. A skilled domestically trained workforce is essential for the U.S. to reshore the biotechnology and biomanufacturing sector and create thriving industries that will enhance American prosperity.

---

[2]www.whitehouse.gov/presidential-actions/2025/05/regulatory-relief-to-promote-domestic-production-of-critical-medicines/

[3]www.whitehouse.gov/presidential-actions/2025/04/unleashing-americas-offshore-critical-minerals-and-resources/

[4] www.wwpdb.org/

[5]www.whitehouse.gov/presidential-actions/2025/04/advancing-artificial-intelligence-education-for-american-youth/