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Congress of the United States
House of Representatives
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
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September 09, 2026

Mr. Brian Stone
Chief of Staff, Performing the duties of the NSF Director
National Science Foundation
401 Dulany Street
Alexandria, VA 22314

Dear Acting Director Stone,

The House Committee on Science, Space, and Technology writes to determine how the National Science Foundation (NSF) is working to advance American leadership in biotechnology research while protecting the United States' biosecurity. Broadly speaking, biotechnology is the exploitation of biological processes for industrial and other purposes.[1] The most prominent approaches include genetic engineering, DNA sequencing, and gene editing, but the field has expanded to include synthetic biology and artificial intelligence (AI) and now plays a critical role in industries beyond healthcare, such as energy, agriculture, and industrial manufacturing.[2] While these industries present significant opportunities for growth, they also pose serious risks that must be considered. The potential for biotechnology to be misused by malicious actors, or even through otherwise benign activities, to threaten U.S. biosecurity is substantial and well recognized.[3] The United States must lead in this area of research to support economic growth and societal benefit while strengthening safeguards against harm caused by negligent or malicious actors.

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[1] *Biotechnology*, Merriam Webster Dictionary (12th ed. 2026), https://www.merriam-webster.com/dictionary/biotechnology.
[2] Stanford University, The Stanford Emerging Technology Review 2025 (Herbert S. Lin et al. eds., 2025), https://setr.stanford.edu/sites/default/files/2025-01/SETR2025_web-240128.pdf; Drew Endy et al., *Biosecurity Really A Strategy for Victory,* The Hoover Institution (Oct. 2025), https://www.hoover.org/sites/default/files/research/docs/Moront_BiosecurityReally_web-251007.pdf; Economy Partners LLC, The U.S. Bioscience Economy: Driving Economic Growth and Opportunity in States and Regions (2024), https://bio.widen.net/s/hflmb92hwx/the-us-bioscience-economy-driving-economic-growth-and-opportunities-in-states-and-regions.
[3] *Supra* at 2., Id., Stanford University, The Stanford Emerging Technology Review 2026 (Herbert S. Lin et al. eds., 2026), 251007.pdf; https://setr.stanford.edu/sites/default/files/2026-01/SETR2026_web-260109.pdf.

Congress and this Committee have long recognized the growing importance of research into biotechnology and its integration into national security strategies. In 2022, Congress established the National Security Commission on Emerging Biotechnology (NSCEB) to assess and recommend national security policies for biotechnology by studying the implications of biological innovation across defense, intelligence, and economic sectors, identifying associated opportunities and threats.[4] Last year, this Committee held a hearing on building strategic priorities in biotechnology, underscoring the need for agencies to develop processes capable of responding to rapidly evolving biotechnology threats, particularly those arising from AI-enabled acceleration of research.[5]

The convergence of biotechnology and AI presents significant opportunities to accelerate scientific discovery, enhance U.S. competitiveness, and improve outcomes in areas ranging from healthcare and agriculture to energy and manufacturing. At the same time, these advances raise important oversight concerns. AI can dramatically increase the speed and scale of biological research, including the design of proteins, genetic sequences, and other biological systems, potentially lowering barriers to capabilities once limited to highly specialized researchers.[6]

Parallel advances in synthetic biology, gene editing, DNA synthesis, and automated laboratory technologies have likewise expanded the ability to engineer biological systems with increasing precision and accessibility.[7] While these capabilities offer substantial benefits, they also create risks by increasing the possibility that biological materials, research findings, or technical capabilities could be misused by malicious actors or inadvertently cause harm through inadequate safety practices. Additional concerns include dual-use research, the security of biological supply chains, the protection of sensitive genomic and research data, the potential theft or diversion of federally funded research, and the need to ensure that oversight frameworks keep pace with technological advancements.[8]

In April 2025, the NSCEB issued its final report, concluding that biotechnology will be a defining strategic technology of the twenty-first century and warning that the U.S. risks falling

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[4] National Security Comission on Emerging Biotechnology, Chartering the Future of Biotechnology (Apr. 2025), https://www.biotech.senate.gov/.
[5] *Pursuing the Golden Age of Innovation: Strategic Priorities in Biotechnology: Before the Subcomm. on Research and Tech. & Subcomm. on Energy of the H. Comm. on Sci., Space & Tech,* 119th Cong. (2025), https://science.house.gov/2025/6/pursuing-the-golden-age-of-innovation-strategic-priorities-in-biotechnology.
[6] Nicole E. Wheeler, *Responsible AI in biotechnology: balancing discovery, innovation and biosecurity risks*, 13 Frontiers, (discussing the integration of AI into biotechnology), https://www.frontiersin.org/journals/bioengineering-and-biotechnology/articles/10.3389/fbioe.2025.1537471/full; *Supra* at 3.
[7] *Id*., Drew Endy et al., Hoover Institution, Biosecurity Really A Strategy for Victory (2025), https://www.hoover.org/sites/default/files/research/docs/Moront_BiosecurityReally_web-251007.pdf; National Security Commission on Emerging Biotechnology, Charting the Future of Biotechnology (Apr. 2025), https://www.biotech.senate.gov/wp-content/uploads/2026/06/NSCEB-Full-Report-%E2%80%93-Single-Pg-%E2%80%93-June-2026.pdf.
[8] *Supra* at 3., *Id*., *Id*.

behind global competitors absent a coordinated national strategy.[9] The report identified biotechnology as critical to economic competitiveness, national defense, public health, agriculture, energy, and industrial production. It also cautioned that advances in areas such as synthetic biology, AI-enabled biological design, and biomanufacturing present new security challenges that require proactive governance and risk management.[10] The NSCEB further recommended a series of steps to strengthen U.S. biotechnology capabilities, secure biotechnology supply chains, build the biotechnology workforce, improve research security, and establish policies addressing emerging biosecurity risks.[11]

The Committee commends the Administration for its leadership in this area, including President Trump's May 5, 2025, Executive Order on Improving the Safety and Security of Biological Research, which increases oversight of dangerous gain-of-function research while ensuring the United States continues to drive global leadership in biotechnology, biosecurity, and health research.[12] As Congress evaluates implementation of the NSCEB's recommendations, it is important to understand how federal agencies, including NSF, are building upon this progress and incorporating the NSCEB's findings into their programs, policies, and strategic planning.

Given biotechnology's importance to U.S. economic competitiveness, scientific leadership, national security, and the evolving risks posed by emerging biological capabilities, it is essential for Congress to understand how federal agencies are advancing biotechnology innovation while safeguarding against biosecurity and research security risks, as well as other threats to national security. The Committee therefore seeks additional information regarding NSF's biotechnology-related activities.

To assist the Committee in carrying out its oversight responsibilities, please provide information regarding NSF's activities, authorities, policies, and programs related to biotechnology research, development, innovation, and biosecurity. As such, we ask that you respond to the following questions by September 30, 2026. Please direct any questions to the Committee's majority staff at (202) 225-6371.

1. What policies, procedures, or frameworks does NSF use to identify, evaluate, and mitigate biosecurity risks associated with federally funded biotechnology research?

2. How does NSF assess and address risks associated with dual-use research, including research that could reasonably be anticipated to be misapplied in ways that threaten public health, agriculture, the environment, or national security?

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[9] *Supra* at 7.
[10] *Supra* at 7.
[11] *Supra* at 7.
[12] Exec. Order No. 14,292, 90 Fed. Reg. 19,611 (May 5, 2025), https://www.whitehouse.gov/presidential-actions/2025/05/improving-the-safety-and-security-of-biological-research/.

3. Does NSF provide guidance, standards, or requirements regarding the use of AI in biotechnology research supported by the agency? If so, please describe those policies.

4. What steps has NSF taken to assess whether advances in AI may increase the capability of malicious actors to acquire, develop, or misuse biological materials, agents, or capabilities?
    a. Please describe NSF's efforts to address risks arising from the convergence of biotechnology and AI.

5. Please describe NSF's efforts to protect federally funded biotechnology research from foreign exploitation, intellectual property theft, inappropriate foreign influence, or other research security threats.

6. What mechanisms does NSF use to monitor compliance with applicable biosafety, biosecurity, and research security requirements among funding recipients?

7. Has NSF identified any significant gaps, vulnerabilities, or emerging threats related to biotechnology or arising from biotechnology? If so, please describe those gaps and any actions being taken to address them.

8. Has NSF implemented any recommendations from the National Security Commission on Emerging Biotechnology or evaluated how those recommendations may apply to the agency's mission? If so, please describe those efforts.

9. What additional authorities, resources, statutory changes, or policy tools, if any, does NSF believe are necessary to strengthen U.S. biotechnology leadership while protecting national security and biosecurity?

Sincerely,

Brian Babin
Chairman
Committee on

Rich McCormick
Chairman
Subcommittee on Investigations

Science, Space, and Technology

and Oversight
Committee on
Science, Space, and Technology

cc: Zoe Lofgren, Ranking Member, House Committee on Science, Space, and Technology; Emelia Sykes, Ranking Member, Subcommittee on Investigations and Oversight, House Committee on Science, Space, and Technology