Biomedical Advanced Research and Development Authority (BARDA)

Administration for Strategic Preparedness & Response (ASPR)
U.S. Department of Health and Human Services (HHS)

Request for Information (RFI) for

"Rapid Antibody Production for Immunoassay Diagnostics (RAPID)"

Issued: 31 October 2025

Responses Due: 1pm EST, 4 December 2025

Biomedical Advanced Research and Development Authority (BARDA)
Contracts Management & Acquisition (CMA)
400 7th Street, SW, Washington, DC 20024

MedicalCountermeasures.gov

"Rapid Antibody Production for Immunoassay Diagnostics (RAPID)"

Request for Information (RFI)

Background

The RRPV is issuing this Request for Information (RFI) to assist in understanding the research and development landscape of next-generation technologies and processes that can significantly increase the speed of diagnostic antibody (or other protein/peptide binders) design/discovery through production. Traditional antibody development pipelines for diagnostics are too slow (months to years) to rapidly respond to emerging threats. Rapid response requires fast, flexible development processes capable of generating validated antibodies/ binders within weeks.

We are interested in learning about fast, flexible, and transformative approaches that will provide 1) in-house end-to-end solutions (design through production of antibody/protein binder) that incorporate technologies/platforms that address critical bottlenecks in the development pipeline or 2) technologies that address individual steps in the development process (e.g., design/discovery, screening, optimization, and/or manufacturing) that will bring significant time savings and could be later incorporated into end-to-end solutions. Systems should be adaptable for use in response to unknown biothreats or emerging pathogens.

Potential areas of interest include (non-exhaustive list):

- AI/ML-accelerated discovery, design, and in silico screening of antibodies or protein binders
- Closed-loop discovery pipelines integrating computation, automation, and analytics
- Rapid expression systems (cell-free, microbial, mammalian, or synthetic)
- Microfluidic or automated screening/characterization platforms
- Continuous or distributed manufacturing approaches

Request for Information

The objective of this RFI is to solicit feedback from industry, academia, and other stakeholders to assist BARDA in understanding existing process bottlenecks and to identify technologies, capabilities, and potential partnerships that can substantially improve the speed, scalability, and adaptability of antibody (or other protein/peptide binders) development for diagnostic applications, particularly for unknown biothreats or emerging pathogens.

Respondents do not have to be a member of the RRPV consortium to submit a response for this RFI; however, they must be a member of the consortium to respond to any future request for project proposals (RPP) for this requirement.

Please submit responses by email to rrpv@ati.org no later than 1pm EST December 4th, 2025.

Late responses will not be considered.

This RFI is for information gathering purposes only. It does not constitute a Request for Project Proposal (RPP) nor does it imply any obligation to issue a future solicitation, make any award, or pay any costs associated with responding to this RFI. Submission is voluntary and does not commit the responder to respond to any subsequent opportunities (if any) related to this topic. The RRPV will not return or provide feedback on any submissions, however, BARDA reserves the right to further engage with respondents in a Market Research Call to clarify understanding of submitted information. All responses to this RFI will be treated as sensitive information and confidentiality will be protected accordingly.

Requested Information:

Respondents are invited to provide a concise response addressing the following topics:

1. **Organizational Overview**
   - Brief description of your organization/team, core expertise, and primary focus areas
   - Summary of prior experience with antibody/binder development, particularly for diagnostics or medical countermeasures

2. **Proposed Solution Technical Overview**
   - Discussion of key bottlenecks in the antibody/protein binder development pipeline from your perspective.
   - Clear description of your proposed technical solution and how it addresses these bottleneck(s):
     - Address maturity of your solution https://medicalcountermeasures.gov/trl (e.g. idea, R&D, commercial); provide feasibility data if possible. Where development is needed, provide high-level descriptions of time and work needed.
     - Provide clear descriptions of platform/workflow/process, including input/output.
     - For technologies/platforms that are not end-to-end antibody/protein binder development solutions, clearly state how the technology integrates into an end-to-end development pipeline; or what partnerships would be needed.
     - Discuss limitations, both fundamental and those with proposed workarounds (e.g., internal development, partnering).
   - Provide quantitative benchmarks for performance (e.g., time to validated binder, throughput, scale).
   - Integration of AI, automation, or structural biology tools. Include discussion of methods used to screen and down-select candidates.
   - Typical/target timelines and throughput for antibody/ binder identification and validation.

3. **Infrastructure & Capabilities**
   - Brief description of existing facilities, infrastructure, and capabilities:
     - Identify capability gaps or areas where partners may be needed to integrate your technology/platform into an end-to-end solution (design through production of antibody/protein binder).
   - For responses that include manufacturing, include information on production scale, readiness, location, and quality (e.g. R&D, pilot, or GMP).

4. **Experience & Collaboration**

- List of relevant collaborations, awards (e.g., BARDA, NIH, DARPA, DoD, industry partnerships) and/or published manuscripts.
- Willingness to partner with others to either:
  - a) fill capability gaps in end-to-end antibody/protein binder development and production
  - b) partner with diagnostic manufacturer to integrate into assay

5. **Proposed Program Structures, Milestones, and Tests:**
   (This section is intended to help the Government identify practical, measurable pathways to verify rapid antibody/binder development performance.)

   Respondents are encouraged to include high-level concepts for structured programs or demonstrations that could prove their solution's speed and scalability. (<1 page)
   - Very brief description of any tasks needed for platform/process development or process integration.
   - Suggested high-level milestones, metrics, and key decision points for development work and planned pressure tests.
   - High-level discussion of test protocols or performance criteria to demonstrate timeline acceleration without sacrificing performance (e.g., rapid expression, antigen-agnostic workflows, or end-to-end automation).
   - Estimated timelines and resource needs for such a demonstration.

Responses

Interested parties should respond to this RFI with a written response consisting of a cover page and a technical response (PDF; no smaller than 10-point font). The cover page should provide administrative and contact Information (contact name, title, email address, phone number) and organizational information of the responder (entity name, headquarters, mailing address). The technical response should be no longer than 8 pages for end-to-end solutions or 6 pages for individual platforms (excluding the cover page) and include the following:

1. Executive Summary (≤1 page)
2. Technical Overview ≤5 pages for end-to-end solutions; (≤3 pages for individual technologies;)
3. Capabilities and Infrastructure (≤1 page)
4. (Optional) Proposed Program or Demonstration Concept (≤1 page)

Add references as necessary but be sure to include all relevant information in the response. Cited publications or attachments may not be read.

Respondents must clearly mark all copyrighted information, data, and materials with appropriate restrictive legends (e.g., confidential, privileged, proprietary, trade secret). To aid in protecting your information, please segregate proprietary information. DO NOT SUBMIT ANY CLASSIFIED INFORMATION.

Please note that non-federal employees performing advisory and assistance services will have access to any submission under this RFI. All non-federal employees are required to sign a nondisclosure agreement prior to accessing the RFI responses.