

Special Notice (SN) DARPA-SN-26-77
Future Program Announcement
Resuscitation and Prevention of Ischemia-Induced Dysfunction (RAPIID)
Defense Advanced Research Projects Agency (DARPA)
Biological Technologies Office (BTO)

TECHNICAL POC: LCDR Robert Murray, DARPA/BTO

Email: RAPIID@darpa.mil

BACKGROUND:

The purpose of this Special Notice (SN) is to provide public notification of additional research areas of interest to the Defense Advanced Research Projects Agency (DARPA) Biological Technologies Office (BTO), specifically for the forthcoming Resuscitation and Prevention of Ischemia-Induced Dysfunction (RAPIID) program.

When released, the solicitation will be made available at <https://sam.gov/>

PROGRAM GOALS:

The DARPA RAPIID program aims to deliver a shelf-stable, blood analog system that is authorized within the next three years and can be manufactured at scale. Specifically, RAPIID seeks to do this by assessing and funding studies necessary for regulatory approval of high technology readiness level (TRL)/material readiness level (MRL) blood analog components, including, but not limited to, oxygen carriers, plasma, and platelets or platelet-like particles.

To achieve this goal, the program will focus on a set of biosynthetic, blood analog components paired with durable, field-ready delivery systems (like pre-filled syringes or IV bags), rapid point-of-care diagnostic tools, and the clinical guidelines needed for their use. Blood analog components should minimally be at TRL/MRL 3-4¹, have completed at least initial *in vivo* testing, and have clear trauma/hemorrhage countermeasure indications. In addition to the blood analog components and essential fielding technology development, the program will also focus on manufacturing at scale, product commercialization, and the development of a regulatory pathway for individual and combined products as well as acquisition strategies for the blood analog components by the Department of War (DoW). The capabilities generated in this program will have the ability to save the lives of warfighters and civilians.

RAPIID is a two phase, 36-month program. Phase 1 (12 months) will focus on demonstrating the viability of individual components and their compatibility with each other. This includes initial

¹ <https://medicalcountermeasures.gov/trl/integrated-trls>

preclinical and manufacturing studies and developing the early framework for a regulatory and commercialization strategy. The blood analog components most successful at achieving Phase 1 metrics will continue into Phase 2 (24-months), which will focus on final preclinical development, clinical development, to include clinical trials, regulatory strategy execution, manufacturing scale up, and product commercialization.

BTO encourages specialization in this program. Proposers are not expected to cover all technical areas. We welcome proposals focused on specific blood analog components (e.g., only an oxygen carrier) or enabling technologies (e.g., only a delivery format). The final solicitation will detail how teams can collaborate and which task areas can be addressed jointly.

DARPACONNECT:

For those new to DARPA or national security, DARPA makes available a free, comprehensive resource via DARPAConnect on how to do business with the agency. In addition to DARPA 101 materials, relevant preparatory modules include “Making the Most of a Proposers Day” and “Understanding DARPA Broad Agency Announcements.” Registration and access are free at <http://www.darpaconnect.us/>.

ADMINISTRATIVE:

This Special Notice does not constitute a formal solicitation for proposals. This notice is issued solely for information and program planning purposes and is not a Request for Information (RFI). Since this is not an RFI, DARPA will not accept any submissions against this notice. Interested parties to this notice are cautioned that nothing herein obligates DARPA to issue a solicitation.

NO CLASSIFIED INFORMATION SHOULD BE INCLUDED IN ANY COMMUNICATIONS IN RESPONSE TO THIS SPECIAL NOTICE.

Please e-mail RAPIID@darpa.mil if you wish to be added to our blast list for future program updates (i.e., Program Solicitation publication, etc.).