

Prepaire Makes Application to BARDA's DRIVe ReDirect Program

ReDIRECT program, a partnership between BARDA's chemical medical countermeasures branch & DRIVe invited innovators to repurpose commonly available therapeutics



DUBAI, UNITED ARAB EMIRATES , October 3, 2022 /EINPresswire.com/ --

<u>Prepaire</u>, a company leveraging the power of AI and machine learning to revolutionize drug discovery, today announced the filing of an application in response to Biomedical Advanced Research and Development Authority's (Barda) DRIVe ReDIRECT (Repurposing Drugs in Response to Chemical Threats) program. In a chemical emergency, minutes matter, and <u>medical countermeasures</u> (MCM) deployment is necessary to save lives and minimize injury. With Prepaire, treatment, discovery, and production are reduced from decades to near real-time, avoiding lengthy and expensive trials while improving outcomes and safety.

Current treatment protocols for exposure to nerve and vesicant agents found in government stockpiles are outdated, and the toxicities and efficacies of available therapies and antidotes are still being evaluated. For this reason, Prepaire created a dedicated platform branded, Prepaire Shield, to take on the most significant threats within the <u>chemical weapon agent</u> (CWA) domain. From Al-powered target discovery based on massive datasets to biological validation by multiple model systems (mouse, human IPS cells) to rapid clinical testing through investigator-initiated trials, Prepaire represents a new trend that dramatically reduces the costs and duration and, more importantly, improves the success rate of developing medicines.

BARDA invited projects repurposing existing therapeutics as MCMs against chemical threats (cyanide, opioids, nerve agents, chlorine, sulfur mustard, etc.). To effectively treat patients exposed to CWAs, it is critical to identify the nature of the CWA early on. This problem is complicated to address in a mass-exposure event (such as those that recently happened in Syria, Malaysia, Russia, and the United Kingdom) because the therapeutic window has significantly decreased when patients develop symptoms. Prepaire Shield drug screening efforts identify therapeutic candidates that can be repurposed and evaluated, focusing on those that could treat the symptoms of diseases that are also symptoms of chemical agent exposure. This "treat the symptom" approach, agnostic to the chemical injury itself, is a crucial strategy for many

government agencies worldwide. ¬¬

Commenting on the announcement, Carl Freer, Founder and Head of Innovation at Prepaire, "We're confident in the strength of the submission made to BARDA, ENA-001's rapid and proven ventilatory stimulation, irrespective of the cause of the respiratory depression, is critical for effective post-exposure therapy given the urgency for treatment and the unknowns associated with many chemical threats. As a company at the forefront of target identification, indication prioritization, mechanism reconstruction, and drug repurposing work in the pharmaceutical industry, we aim to identify commonly available drugs that can be used as MCMs for exposure to chemical agents. Paired with our deep domain expertise, Shield will evaluate genomic experiments, systems, and computational biology, as well as known protein-protein interactions and molecular pathways accessed through our proprietary databases. With this approach, we can provide a fast, focused method for screening drug candidates to repurpose successfully for treating chemical exposures."

Dr. Vicent Ribas, Chief Scientific Officer at Prepaid, added, "We are excited by the opportunity to be considered to partner with BARDA to identify medical countermeasures for the management of patients who have been exposed to a pulmonary CWA can significantly benefit from combination treatments that address this acute hyperinflammation/CRS and potential downstream pulmonary fibrosis. Patients could benefit from the new drug synthesis models for developing AChE reactivators to be administered with an anti-inflammatory and neuroprotectant agent to prevent long-term neuro-deficiency. Prepaire Shield is designed to accelerate the pace of discovery and innovation, including its vast data sets and advanced analytics, enabling faster evidence-based decision-making. These efforts will unlock hidden insights and provide new and unique perspectives using intelligence in previously unavailable ways to analyze relevant therapeutics."

About Prepaire

It started in 2020 and is based in Dublin, Ireland, with plans for a BSL2 lab in Dubai, UAE. Prepaire aims to become a scaled network providing a docking station for how stakeholders approach drug development. The concurrence of state-of-the-art Artificial Intelligence and chemical retrosynthesis has enabled PREPAiRE to systematically integrate target identification, validation, lead discovery, optimization, drug synthesis, and preclinical testing into a single platform. Al accelerated drug discovery, allowing for a fast-track discovery and repurposing of the existing molecule, intelligent clinical design, and coupled with in-house manufacturing. If you want to learn more about partnering with us, please reach out to: partners@prepaire.com.

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