

Safi Biosolutions developing alternatives to donated blood as part of USU 4D Bio3 On-Demand Blood program

CAMBRIDGE, MA, UNITED STATES, March 24, 2022 /EINPresswire.com/ -- The Geneva Foundation (Geneva), a 501(c)3 non-profit that provides innovative scientific research and exceptional program management, recently announced the award of an additional \$12 million dollars by the Uniformed Services University (USU) Center for Biotechnology (also known as 4D Bio3) for its On-Demand Blood (ODB) Program, funded by the Defense Health Program (DHP), to continue development of the capability to manufacture on-demand blood products.



The 4D Bio3 ODB program was established in 2019 as a federally-funded partnership with research programs administered by Geneva, along with collaborators Safi Biosolutions, Inc., Sciperio, Inc., and Massachusetts General Hospital. Under this cooperative agreement, the ODB program aims to transform military and civilian transfusion medicine with manufactured blood products to enable optimal warfighter medical readiness and resilience on the battlefield.

To date, the USU 4D Bio3 ODB program has received \$27 million in federal funding to support the hardware development, process efficiency, and cost reduction of cell production, along with the preparation of the commercial and regulatory translation on behalf of the U.S. Department of Defense (DoD).

The additional \$12M in funding will allow for the continuation of testing portable bioreactors for red blood cell production and further refinement of cell production efficiency for optimal cell growth conditions and cost reductions for both a deployed field environment but also a military treatment facility.

The ODB program builds and expands on the early successes in red blood cell (RBC) production in a prior Defense Advanced Research Projects Agency (DARPA) program called “Blood Pharming.” The ODB program endeavors to further develop RBCs but also neutrophils, platelets and other blood products—ultimately, “whole blood.” In addition, the ODB program has the ambitious goal of translating this biotechnology for far-forward field environments such as using a self-contained bioreactor platform for large-scale production of universal donor RBCs.

“The potential of manufacturing blood on demand has enormous implications for the military which increasingly is asked to deploy to austere environments at a moment’s notice. Understandably, the logistics related to ensuring an adequate blood supply in the field can be quite challenging. The ability to produce “fresh” human RBCs near the point of need as an alternative to traditional donated blood minimizes concerns related to reliance on blood donation, donor blood screening, as well as the inherent logistical issues related to storing and transport of donated blood to remote locations,” said USU professor, Chair of Radiology and 4D Bio3 Director Dr. Vincent B. Ho.

About Safi Biosolutions

Safi Biosolutions, Inc., is an early-stage biotech company developing blood cells that are produced allogeneically, ex vivo, at multi-unit transfusion scale for both U.S. DoD and commercial therapeutic indications. As part of the USU 4D Bio3 On-Demand Blood program, Safi is responsible for leading the regulatory, clinical, and commercial development of the cell therapeutics being developed under the ODB program. <https://www.safi.bio>

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