ASX ANNOUNCEMENT

16 April 2025

US Army Institute of Surgical Research notifies of successful Phase 1 Blood Platelet study using Vitrafy Life Sciences technology

Highlights

- The *US Army Institute of Surgical Research* has successfully completed phase 1 of the blood platelet study using *Vitrafy Life Sciences Limited's* cryopreservation technology with outstanding results.
- Independent, scientific testing of commercial unit sizes of cryopreserved blood platelet samples was completed at a U.S. Military base in San Antonio, Texas.
- Validation testing included Vitrafy's cryopreservation technology, proprietary processes and protocols for blood platelets with, and without, cryoprotectants.
- All blood platelet samples evaluated displayed post-thaw recoveries above 88%; rates that are well above the desired threshold.
- Key functional activity of samples retained post-thaw highlights their potential as a reliable, on-demand hemostatic product for use in trauma settings.
- Post-thaw functionality measurements exceed the regulatory and industry standards required to be deployed as a hemostatic product for use in military and civilian settings.
- Having exceeded all validation milestones under the CRADA, Vitrafy has successfully passed the phase 1 gating milestone for the blood platelets project.
- Vitrafy and the US Army will now proceed to the next phase of the project which is anticipated to be completed within 2025 and will include the commencement of commercial discussions.

Overview

Vitrafy Life Sciences Limited (ASX: VFY) (**Vitrafy** or **Company**) today announces the completion of Phase 1 of the blood platelets study undertaken by the US Army Institute of Surgical Research (**USAISR**). The aim of Phase 1 was to complete a fully independent validation study of Vitrafy's Cryopreservation Technology to determine its ability to cryopreserve blood platelets in commercial unit sizes for use in military and civilian applications.

Importantly, the results generated by the USAISR using Vitrafy's Cryopreservation Technology successfully passes the gating item for continued development under the collaboration-to-commercialisation pathway. Vitrafy and the USAISR are currently working together to develop the second phase of the study and commercialisation discussions and planning.

Background

In 2024, Vitrafy entered into the Cooperative Research and Development Agreement (**CRADA**) with the USAISR. The purpose of this partnership is to develop and validate Vitrafy's Cryopreservation Technology, processes and protocols, to commence the use of cryopreserved blood platelets to address the critical need for improved blood supply in combat and civilian trauma settings, with a particular focus on Large Scale Combat Operation (**LSCO**) environments.

Scope of Research

Across the last quarter, the USAISR completed independent validation of the Vitrafy Cryopreservation Technology in their facility located in San Antonio, Texas. Building upon the initial platelets research conducted by Vitrafy and Australian Red Cross Lifeblood, the key aims of this study was to:

- Evaluate the quality and function of blood platelets cryopreserved using Vitrafy's proprietary cryopreservation hardware and software technology
- Evaluate the quality and function of blood platelets cryopreserved using Vitrafy's proprietary cryopreservation processes and protocols, including with and without cryoprotective agents (**CPA**)
- Assess operational and practical suitability of Vitrafy's cryopreservation technology for use in military applications
- Complete scientific testing on commercial unit sizes of cryopreserved blood platelets
- Exceed regulatory and safety standards set by the Food & Drug Administration (**FDA**) and Association for the Advancement of Blood & Biotherapies (**AABB**).

Results and Analysis

Platelet samples were collected from eight healthy donors, split into three samples per donor, totaling 24 samples being tested. Samples were then prepared and cryopreserved using Vitrafy's cryopreservation technology. Samples were stored at -80°C and assessed for key parameters post-thaw, including platelet recovery, pH, and clotting efficiency after thawing.

All cryopreserved samples evaluated using the Vitrafy Cryopreservation Technology, including those with and without cryoprotective agents, resulted in high post-thaw recoveries greater than 88%.

The results generated from this study demonstrate that cryopreserved platelet samples using Vitrafy's Cryopreservation Technology retained key functional activity after thawing. Specifically, the post-thaw sample data indicate that the platelets continue to support critical clotting processes which is paramount in the use of trauma settings.

Importantly, all Vitrafy proprietary protocols and processes had post-thaw functionality measurements exceeding all regulatory and industry standards required to be used for human health applications.

The significance of these results is that it demonstrates the ability for Vitrafy's Cryopreservation Technology to cryopreserve blood platelets in commercial unit sizes and be deployed as a hemostatic product for use in military and civilian settings.

Outlook

This study will now proceed to the next phase which includes higher throughputs and replicates, and more detailed protocol selection. This phase is expected to be completed during 2025 as the parties proceed to commercial discussions and planning.

Kristin Cardenas, PhD, Research Scientist, Blood and Shock Resuscitation, USAISR said "These results suggest that Vitrafy's cryopreserved platelets may extend storage duration to years with minimal cellular damage, significantly improving blood supply and logistics to allow for greater patient access to lifesaving transfusion therapies."

In addition, the USAISR noted that a breakthrough in how platelets are cryopreserved "would allow greater logistical flexibility for delivering lifesaving products to combat casualties in LSCO environments. Furthermore, results obtained using the Vitrafy system holds tremendous potential for both extending platelet shelf life while exhibiting superior hemostatic function, showing promise for a wide range of military and civilian applications where platelet products are urgently needed.'

Brent Owens, Vitrafy's Deputy CEO and Co-founder said "We're incredibly proud of the success of the independent Phase 1 study by USAISR. This marks a significant milestone for the company and a leap forward for the availability of Vitrafy's quality cryopreserved platelets. By deploying Vitrafy's technology directly on a working US Army research base, it has independently validated its real-world performance in relevant environments—with strong direct indications of the disruptive nature of our technology and its ability to revolutionise platelet use across both military and civilian settings, preserving life."

Kate Munnings, Vitrafy's CEO "These results are another important validation of the disruptive nature of Vitrafy's cryopreservation technology. It has the potential to change industries and significantly improve healthcare treatments."

Release of Q3 FY25 Activities Report and Appendix 4C

Vitrafy will release its Quarter 3 FY25 Activities Report and Appendix 4C to the market on Tuesday, 29 April 2025. An investor briefing will be conducted on the morning of Friday, 2 May 2025.

Details on how to register for the investor briefing will be included in the Q3 FY25 Activities Report and Appendix 4C release.

ENDS

This announcement is authorised by the Board of Vitrafy Life Sciences Limited.

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About Vitrafy

Vitrafy has developed a proprietary range of smart cryopreservation hardware and Lifechain™, a cloud-based software platform, to offer a complete cryopreservation solution. This integrated system ensures the preservation of biomaterial quality, empowering industries to retain the integrity of sensitive biological samples throughout the storage process. Vitrafy's innovative approach combines cutting-edge technology and seamless software integration to optimise cryopreservation, ensuring reliability and efficiency in maintaining valuable biological assets. Vitrafy is headquartered in Melbourne, Australia, has an ISO13485 accredited Manufacturing Facility and Laboratory in Ballarat, Victoria and is listed on the Australian Securities Exchange (ASX: VFY).

For more information visit vitrafy.com.