

Bethesda-Based NHSi Wins \$2M Grant for Blood Technology

BETHESDA, Maryland, May 26, 2009—New Health Sciences Inc. (NHSi) has won a two-year award of \$1.9 million from the National Heart, Lung and Blood Institute of the National Institutes of Health (NIH) to develop a groundbreaking blood-storage system.

The project aims to develop the Hemanext Anaerobic Storage Platform, which delivers higher quality blood for transfusion therapy and extends the shelf life of blood for transfusion.

NHSi has demonstrated that this new technology can deliver higher-quality, more physiologic blood, with an improved capacity to deliver oxygen and more deformable red blood cells for better capillary perfusion, and extend by 50 percent or more the shelf life of stored red blood cells.

The Small Business Innovation Research Phase II grant from NIH, announced March 27, follows a 2007-2008 Phase I grant of \$133,290.

“This grant is a major step forward for transfusion medicine,” NHSi President Martin Cannon said. “Evidence is mounting that, following transfusions, patients experience a multitude of complications resulting in increased morbidity and longer hospital stays that might have been prevented had better stored, better transported, and better preserved blood been used.”

“Our technology aims to address this problem and in doing so, reduce the human and economic costs associated with extended hospitalization,” Cannon said.

Research has documented that the rate of complications increases with the number of units of blood transfused. Moreover, in a relatively large study, significantly worse post-operative outcomes were associated with blood stored longer than 15 days.

NHSi expects widespread adoption of its Hemanext Anaerobic Storage Platform will reduce the adverse side effects of life-saving blood transfusions and streamline blood-bank operations—alleviating periodic blood shortages and increasing pre-operative autologous (self-donated) blood donations.

“This research represents a paradigm shift in the approach to storage of red cells, the most significant change since the introduction of additive solutions 25 years ago,” Professor James AuBuchon of the University of Washington and President & CEO of Puget Sound Blood Center, said.

“As concern mounts about the clinical impact of storage time of red cell units, reduction in the storage lesion that accumulates has taken on increased

importance. Anaerobic storage is a new tool that may not only lengthen but improve the storage of these life-saving cells,” AuBuchon said.

NHSi’s Director of Research and Development Dr. Tatsuhiro Yoshida said the new NIH grant “will enable us to move this laboratory technology to everyday use at blood banks by developing an inexpensive, self-contained storage system easily accommodated under current blood-bank operations.”

The Medical Device Laboratory, McGowan Institute for Regenerative Medicine at University of Pittsburgh (Professor William Federspiel), Filtertek Inc. of Hebron, Illinois, and Multisorb Technologies of Buffalo, New York, will help develop this new technology.

The clinical trial will be conducted in the laboratory of Dr. Larry J. Dumont at Dartmouth-Hitchcock Medical Center in Hanover, New Hampshire.

In conjunction with this advanced blood storage technology, NHSi is also developing a microchip-based diagnostic device to evaluate the quality of red blood cells stored for transfusion.

Red blood cells’ diminished capacity to deform and perfuse narrow capillary networks in tissues is believed to be a major cause of transfusion side effects. Before dispensing a unit of blood to the patient, the NHSi device evaluates the “fitness” of stored red blood cells by passing it through an artificial capillary network produced on a disposable microchip. This work is currently carried out in a partnership with Tulane University.

About New Health Sciences:

NHSi is a privately held company that is developing and commercializing two, strategically linked technologies. The first, Hemodynamic Vascular Analysis (“HVA”), is a proprietary software and data-based diagnostic and disease management platform. HVA addresses a large and growing need in neurovascular medicine for more precise, inexpensive and safe diagnostic and disease management tools. The second, Hemanext, is novel technology to deliver red blood cells (RBCs) of higher efficacy for transfusion therapy, and at the same time, extend the shelf life of refrigerated RBCs. For more information on the company and other developments, visit www.newhealthsciences.com

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