

RTP startup talking to DOD about use for plasma powder

By Frank Vinluan

RESEARCH TRIANGLE PARK – Entegriion, a Research Triangle Park startup focused on developing products that control bleeding, is in talks with the U.S. military about a partnership to take through clinical trials a powdered plasma that can be quickly rehydrated in emergencies.

Plasma, part of the blood that contains proteins and clotting factors, is often used in situations in which patients suffer severe bleeding. Entegriion's product, called Resusix, is intended to offer a timely advantage over fresh frozen plasma, which can be difficult to transport and takes time to thaw.

Tom Fischer, Entegriion vice president and chief science officer, says the U.S. Department of Defense is interested in Resusix for battlefield situations. He expects the product to eventually find civilian use as well.

"We are particularly excited about the opportunity to provide Resusix to clinics in the developing world, where frozen plasma is simply logistically impossible to provide," Fischer says.

He says clinical trials will take about three years. In addition to talking with the DOD about financing the trials, the company is considering partnering with larger companies that work with plasma products. The company aims to start clinical trials in late 2009 and have a dried plasma product available for civilian use by 2012.

Dr. Harold Roberts, a professor in the University of North Carolina at Chapel Hill School of Medicine and a hematology expert, says dried plasma can be helpful for trauma patients, particularly soldiers wounded in battle. In the field, blood-clotting products usually aren't readily available, he says. Roberts is an adviser to Entegriion who has no financial stake in the company.

Roberts says the difficulty in developing a usable powdered plasma for trauma situations is finding a way to reconstitute the plasma quickly. He says that some powders have particles that are too large to rehydrate quickly. But he says Entegriion's technique appears to produce a fine powder that forms plasma quickly when mixed with sterile saline.

Fischer says lyophilized, or freeze-dried, plasma was used during World War II. But such products were discontinued in the early 1950s because of hepatitis contamination. Fischer says there are now technologies that prevent plasma contamination. But he says Entegriion's advantage is a spray-drying process, which the company has patented.

Entegriion is a private company backed by individual investors, including many physicians. Arthur Bode, director of the Platelet Research Laboratory at East Carolina University and an Entegriion investor, says there is an opportunity for Entegriion to offer an alternative to fresh frozen plasma. Besides frozen plasma taking time to thaw, Bode says, a small percentage of the plastic bags used to store the plasma can break. Bode says Resusix would make plasma available as needed.

"It has the immediacy advantage there," Bode says.

But Bode notes that Entegriion has competition in developing a dried plasma product. HemCon Medical Technologies, a

Portland, Ore., business, announced in May that it had received a \$15.4 million grant from the U.S. Army to develop a freeze-dried plasma product and delivery system.

Last month, Entegriion announced a contract from the Department of the Navy to develop a prototype machine that would store and administer dried human plasma. The six-month contract is for \$118,000, but the company says a multi-million-dollar expansion is possible. Entegriion is a spinoff from UNC-Chapel Hill.



PHOTO: COO ENTTEGRION

CEO Stan Eskridge, left, and Vice President Tom Fischer plot their company's future.



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