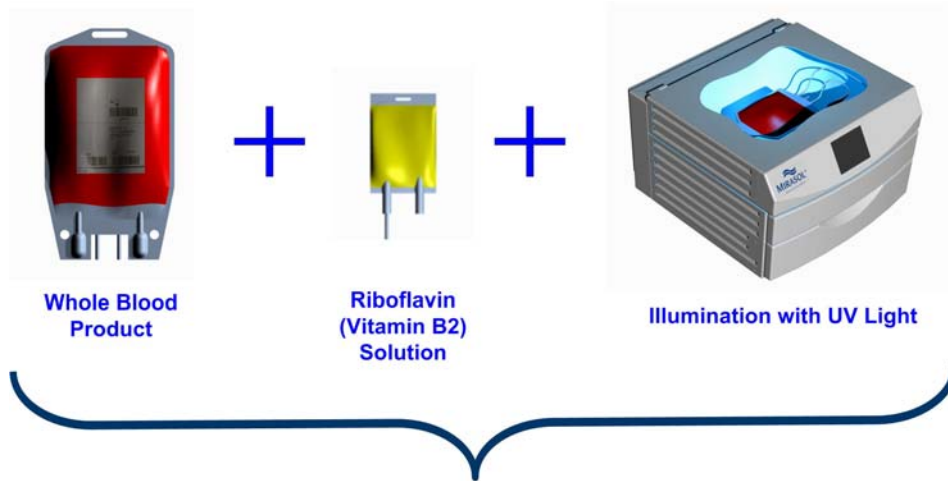


**TATRC Highlighted Research News Article:
Transportable Pathogen Reduction Blood Safety System**

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New Technology to Improve Safety of Blood Transfusions on the Battlefield



- **Reduction of infectious levels of viruses, bacteria and parasites**
- **Inactivation of residual white cells**

A new portable system uses Mirasol™ (riboflavin) and UV light to inactivate disease-causing organisms in donated whole blood.

How do you tell a soldier that the blood transfusion used to save his life on the battlefield may have exposed him to a potentially harmful virus, bacterium or parasite? While blood collected beforehand is carefully screened and generally very safe, it's not always available in the whole-blood form needed for immediate combat casualty situations, nor might there yet be a test for new organisms to which donors in the field may have been exposed. Given time constraints, using unscreened or untested blood is sometimes a necessary risk to prevent fatalities.

New technologies now in the FDA approval process will greatly minimize these risks.

The U.S. Army Medical Research and Materiel Command's (USAMRMC) Telemedicine and Advanced Technology Research Center (TATRC) is actively supporting researchers who are developing processes to improve the safety of blood products (whole blood, red blood cells, platelets and plasma). They are working on advanced technologies that can quickly and easily inactivate bacteria, viruses and parasites that could cause disease in blood products donated in the field.

Researchers at CaridianBCT Biotechnologies have created a portable system that uses Mirasol™ (riboflavin) and UV light to inactivate disease-causing organisms, or pathogens. The process induces a chemical reaction within pathogens' nucleic acids that leaves them unable to replicate and cause harm. It also inactivates the donor's white blood cells that could cause immune complications in the transfusion recipient.

The research team led by CaridianBCT Biotechnologies Chief Science Officer Dr. Raymond Goodrich is focusing on whole blood first because that is what studies have shown to be most beneficial in combat casualty care.

Goodrich explains, "Our process is proactive and universal; we don't have to know exactly what pathogens are in the blood in order to inactivate them. In one treatment, we reduce the risks arising from any bacteria, virus, parasite and donor white cell contamination of donated blood products."

He adds, "A technology such as Mirasol is particularly important for the blood supply in general, given the greater mobility of the world's populations and the changes in global climate that expand the range of disease spread."

The Mirasol system for platelets and plasma is currently approved and available in Europe. The whole-blood system is in its first U.S. human clinical trial as part of the FDA approval process for use in the United States.

Says Goodrich, "The connections and contacts provided by TATRC have been incredibly important in helping us focus on developing the right product for military needs. TATRC has inspired us to apply the financial resources we steward in the best ways possible to bring this technology into reality."

TATRC Director Col. Karl Friedl says, "This collaboration is a prime example of how TATRC seeks to harness new knowledge to support the deployed war fighter."