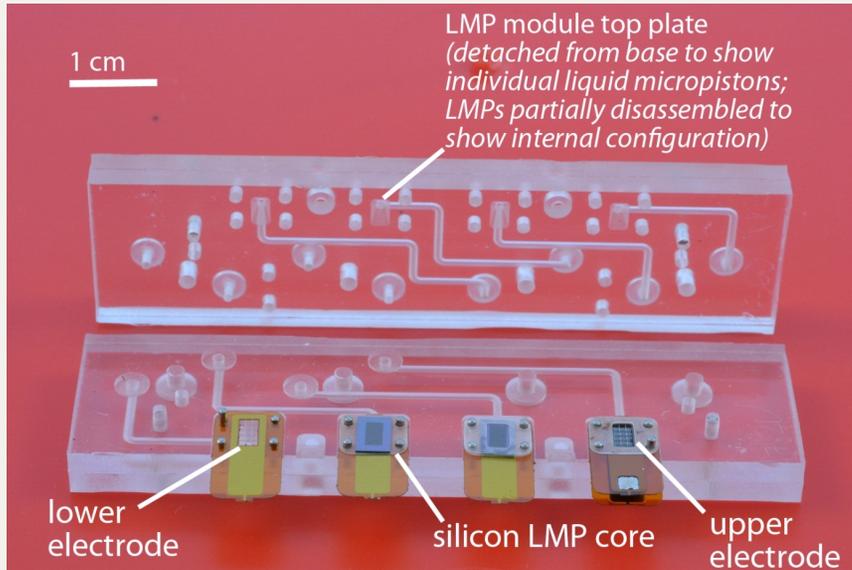




# USSOCOM SBIR Successful Technology Pursuit



## Innovative Technology

**Topic Number** | SOCOM03-002

**Topic Title** | SOF MicroLab

The capability to analyze parasites, bacteria and other pathogens in blood, urine, and body fluids without needing to transport the specimen to processing sites would be beneficial to the warfighter. As part of a Department of Defense (DoD) Small Business Innovation Research (SBIR) project, Wave 80 Biosciences developed an automated, handheld biological fluids analysis system. The Wave 80 SOF MicroLab is compact and rugged, and is capable of performing basic blood tests, urinalysis, and tests for parasites, bacteria, as well as other pathogens. With minimal operator intervention, the system provides fast and accurate results at the point of use. The system is slightly larger than a smartphone and utilizes inexpensive, disposable cartridges. The system is based on the company's patented liquid micropiston (LMP) technology. While originally designed for the detection and diagnosis of malarial antigens, optimization of LMP technology and development of methods for using LMP technology in cartridge-format bioassays under the DoD SBIR effort served as an important foundation for the subsequent development of a high-performance, compact nucleic acid testing system with broad applications in infectious and non-infectious disease. Assay cartridges being released on the platform include measurement of Human Immunodeficiency Virus (HIV) viral load (used by clinicians to optimize drug regimens for HIV/AIDS patients), diagnosis of chlamydia, classification of viral/bacterial acute respiratory infection, and diagnosis of tuberculosis with drug resistance identification.

## Company and Contact Information

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## Military and Commercial Significance

Wave 80 Biosciences received over \$850,000 in Phase I and Phase II SBIR funding from DoD for the development of its SOF MicroLab.

Wave 80 has received over \$10 million in funding from the National Institutes of Health for its technology relative to its HIV application.

The MicroLab technology is a platform that can be readily adapted to applications related to Hepatitis C, Chlamydia, and Tuberculosis diagnosis. The underlying technology may also have use in diagnostics and cancer immunotherapies.

The technology also has application in pharmaceutical synthesis.

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